UNIVERSITY OF SOUTHAMPTON

FACULTY OF LAW, ARTS & SOCIAL SCIENCES

School of Education

New Dogs Old Tricks: the influence and impact of learning styles preferences on the learning and development of PGCE English trainees

by

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ABSTRACT

FACULTY OF LAW, ARTS & SOCIAL SCIENCES
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NEW DOGS OLD TRICKS: THE INFLUENCE AND IMPACT OF LEARNING STYLES
PREFERENCES ON THE LEARNING AND DEVELOPMENT OF PGCE ENGLISH TRAINEES.

By Christopher Wood

This thesis examines the learning styles preferences of secondary PGCE trainees (n=316) using a mixed methods approach. Having reviewed the literature, it builds meaningfully on the relatively little that is known about the learning styles preferences of trainee secondary teachers in England. Its originality lies in the way it then explores the 'lived experience' of trainee English teachers (n=12) in relation to their self-reported learning styles preferences over a nine month period. Using data from Felder and Solomon's (1994) Index of Learning Styles (ILS) questionnaire, it considers whether the learning styles preferences of English, mathematics and science trainees differ according to subject specialism. Subsequently, using a series of three in-depth phenomenologically based interviews, it examines the learning journeys of the English trainees and considers to what extent their learning styles preferences impact on their learning and development as teachers.

  Quantitative analysis of the data from the ILS questionnaire, using descriptive statistics only, indicates that there are 'typical' and 'atypical' learning styles preferences for trainees in different subject disciplines. In particular, these can be seen in relation to the *sensing-intuitive* and the *visual-verbal* learning styles dimensions of the ILS. Qualitative analysis of the interview transcripts indicates that the learning styles preferences of the English trainees consistently shape their attitudes towards/and experience of learning and development. The influence of their learning styles preferences is apparent in their memories of prior education and learning, their evaluations of university and school based teacher training and the choices they make as teachers in the classroom. The thesis concludes by making a number of suggestions for future research. It also offers several recommendations about the effective use of information about learning styles preferences for policy makers, initial teacher educators and providers of continuing professional development.

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Abbreviations

CPD   Continuing Professional Development

DfE   Department for Education

ELSIN   European Learning Styles Information Network

FE   Further Education

HEI   Higher Education Institute

ILS   Index of Learning Styles (Felder and Solomon)

INSET   In-Service Training

ITE   Initial Teacher Education

LSI   Learning Styles Inventory (Kolb)

LSP   Learning Styles Preferences

LSQ   Learning Styles Questionnaire (Honey and Mumford)

MBTI   Myers-Briggs Type Indicator

NQT   Newly Qualified Teacher

Ofsted   Office for Standards in Education

PGCE   Post Graduate Certificate of Education

QTS   Qualified Teacher Status

TDA   Training and Development Agency

VAK   Visual Auditory and Kinaesthetic

Statement of original authorship

I, CHRISTOPHER WOOD declare that the thesis entitled 'New Dogs Old Tricks: the influence and impact of learning styles preferences on the learning and development of PGCE English trainees' and the work presented in the thesis are both my own, and have been generated by me as the result of my own original research. I confirm that:

- this work was done wholly or mainly while in candidature for a research degree at this University;

- where any part of this thesis has previously been submitted for a degree or any other qualification at this University or any other institution, this has been clearly stated;

- where I have consulted the published work of others, this is always clearly attributed;

- where I have quoted from the work of others, the source is always given. With the exception of such quotations, this thesis is entirely my own work;

- I have acknowledged all main sources of help;

- where the thesis is based on work done by myself jointly with others, I have made clear exactly what was done by others and what I have contributed myself;

- none of this work has been published before submission.

Signed:

Date: 6 June 2011

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My sincere gratitude also goes to my family, Jane, Abigail and Henry. They have suffered in silence heroically and put up with my moods forgivingly, especially during the holidays when the last place I wanted to be was in front of my computer.

'I forget what I was taught. I only remember what I've learnt.'

(Patrick White, 1912-1990)

Chapter 1: Introduction

1.1   Background to the research

For seventeen years, as a teacher and head of department, then as a senior leader and local authority adviser, and currently as one of Her Majesty's Inspectors, this researcher has been an advocate of high quality and well-tailored professional development opportunities for professionals working in and with schools (see appendix A). This interest was pursued initially through an MA(Ed) dissertation that explored professional development for subject leaders in secondary schools (Wood, 2002), and subsequently throughout a doctorate of education at the University of Southampton.

During this time, two issues have presented themselves as worthy of further investigation. Firstly, the consistency of the researcher's own preferences for particular ways of learning and how these preferences have often differed from colleagues. Secondly, the frustrating sense that few in-service training (INSET) opportunities take into account the varied learning needs of the educational professionals undertaking them. All too often sessions seem to be overly general, broad brush affairs that attempt, and frequently fail, to inspire or bring about the hoped for professional growth in those who attend. This has led the researcher to consider whether teachers would be better served (and become better teachers) if more attention were given to designing Initial Teacher Education (ITE) and continuing professional development (CPD) that identified, explored and/or responded to their learning styles preferences. Indeed, such an approach seems, at least intuitively, to be of most benefit to beginning or trainee teachers if they are to learn successfully and develop into good teachers.

Definitions of what makes a 'good' teacher, however, illustrate the complexity of the role and the different ways prospective teachers learn. Furlong and Maynard (1995: 56-58), for example, distinguish helpfully between a number of

conceptualisations of teaching, dismissing the view that teaching is *essentially a natural process, based principally on a sound knowledge and deep love of one's subject*. The authors describe two competency based models of teaching: a 'performance' based model (whereby trainees master a set of behavioural skills) and a 'cognitive' model (whereby competence involves knowledge and judgement as well as practical skills). Helpfully, they also outline two distinct traditions of the reflective practitioner model: the 'Deweyan' (whereby reflection involves systematic enquiry into one's own and others' actions) and that proposed by Schön (whereby reflection is a form of metacognition through which trainees establish greater control over the complex processes involved in learning to teach).

More recently, studies have examined the ways student teachers experience the process of learning to teach (Atkinson, 2004; Flores, 2001; Ria, Seve, Saury, Theureau and Durand, 2003; Richards, 2006; Oosterheert, Vermunt and Denessen, 2002; Wood, 2000; Yourn, 2000). Raffo and Hall (2006) suggest that, for many trainees, tensions arise out of the theoretical and practical forms of learning they experience and between their prior experiences and conceptions of teaching and their training programme. Moreover, the different approaches encountered in ITE settings and school based placements, alongside a failure to meet the individual learning needs of the trainee, can act as a barrier to their successful learning and development (Christie et al, 2004; Cook-Sather, 2001; Hobson, 2002 and 2003; Jones 2000; Moran and Dallat, 1995; Parsons and Stephenson, 2005).

No trainee teacher arrives at day one of their ITE course as a blank slate. Many have already developed what Oosterheert and Vermunt (2001: 136) term an *ideal self as a teacher*, originating from their former educational experiences. Feiman-Nemser (1983: 9) argues, however, that *Teacher educators tend to underestimate the pervasive effects of these formative experiences* whilst *formal teacher preparation is not powerful enough to overcome the impact of early experiences*. Franzak (2002: 259) helpfully suggests four main factors that will have impacted

on a trainee teacher's self conception and are relevant to this study and could be looked at more thoroughly by teacher trainers. These are:

1. role models, especially positive ones;
2. previous teaching experiences;
3. significantly positive or negative experiences of education classes; and
4. remembered childhood experiences about learning and family activities.

It is within this context that this study into the influence and impact of learning styles preferences on the learning and development of PGCE secondary English trainees was conceived.

During the year-long PGCE course, trainees spend 43 days studying at the south coast university and 132 days in two different placement schools. It should be noted here that, whilst not untypical, the programme structure described is the preferred model of the chosen university provider. Other institutions offer alternative course structures and organise the centre and school-based experience differently, to meet the needs of their trainees. This particular course outline can be summarised as follows:

- Autumn term (phase 1): trainees spend the first three weeks full time at the university. The following three weeks are spent on 'joint practice', consisting of two days in university and three in their first placement school. The remainder of phase 1 is spent in school with two 'recall' days when trainees return to the university.
- Spring term (phase 2): the large majority of time is spent in the second placement school. In the first half term, trainees spend Fridays at the university. There are two further 'recall' days in the second half term.
- Summer term (phase 3): almost all of the trainees' time is spent in their placement school with five recall days spread throughout the term. At the end of their second placement, in June, trainees return to the university for a final week's plenary.

1.2   Justification for the research and research questions

Currently, trainee teachers who wish to teach in state maintained schools must achieve Qualified Teacher Status or QTS (TDA, Training and Development Agency, 2008), through completion of a period of initial teacher training. In recent times, there has been increasing awareness of the need for more personalised approaches to *all* aspects of teacher development. In an article in the Times Educational Supplement (TES, 28 March 2008: 30) Sara Bubb and Peter Earley of London University's Institute of Education argue that teachers need the same individual attention in their professional development as pupils receive in lesson time. Ofsted's 'framework for the inspection of initial teacher education 2008-11' and accompanying grade descriptors (Ofsted, 2008 and 2009) have sharpened the focus on ensuring that trainees fulfil their potential in terms of the progress they make in their learning and development. There is a regulatory expectation, therefore, that 'outstanding' providers *personalise* provision at all stages.

At the time of writing, the coalition government's white paper 'The Importance of Teaching' (DfE, Department for Education, 2010) proposes radical changes to the systems for teacher training that could lead to the demise of one year Post Graduate Certificate of Education (PGCE) programmes delivered through Higher Education Institutions (HEIs) in favour of shorter, school-centred alternatives. If its proposals are realised, with schools taking sole responsibility for training the teachers of the future, the need for a workable means of identifying their individual learning needs is likely to be even greater. 'Assessing' a trainee teacher's learning style preferences, it can be argued, is a potentially credible means of achieving this end.

In spite of recent criticism (Coffield, Moseley, Hall and Ecclestone, 2004; DEMOS, 2005; Franklin, 2006), commentators such as Evans and Sadler-Smith (2006: 78) argue that learning styles research has highlighted the *'possibilities for individuals, under guidance in educational and training settings, to understand and manage their own thinking and learning processes better'.* Indeed, several studies have

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demonstrated the value of trainees exploring their own learning styles and the positive impact this has on their professional practice (Evans and Waring, 2006; Honigsfeld and Schiering, 2004; Rosenfeld and Rosenfeld, 2004).

For some time, researchers have suggested a link between the learning styles preferences of trainee teachers and the approaches to teaching they adopt (Evans, 2004; Raven, Can, Carton and Shelhamer, 1993; Veronica and Lawrence, 1997; Whittington and Raven, 1995). Few studies, however, have examined the differences between the learning styles preferences of trainee teachers and their subject specialisms (Jarvis and Woodrow, 2001; Veronica and Lawrence, 1997; Woodrow and Jarvis, 2001). This study, therefore, attempts to build meaningfully on the little that is known about the learning style preferences of trainee PGCE teachers in the core secondary subjects of English, mathematics and science. Its originality lies in the way it then explores, over a nine month period, the experience of trainee English teachers in relation to their self-reported learning styles preferences and examines the impact these preferences have on their learning and development as teachers. It is from within this context that the two questions that are central to this research project emerge. These are:

RQ1: To what extent do trainee teachers on a secondary PGCE course self-report learning styles preferences and are these affected by their subject specialisms?

RQ2: To what extent and in what ways do the learning styles preferences of English trainees impact on their experience of/and attitudes towards learning to teach?

In attempting to answer these questions, it is hoped to add to the current debate on the value of learning styles research in relation to ITE, whilst identifying a number of practical recommendations for providers of initial teacher training, Newly Qualified Teacher (NQT) induction and CPD.

1.3   Methodology

A mixed methods approach was chosen for this study as the most appropriate means of collecting the necessary data in a timely, manageable and valid manner. The rationale for this methodology is discussed in Chapter 3.

An established learning styles instrument, the Index of Learning Styles (Felder and Solomon, 1994) was used as a valid, reliable and unobtrusive means of identifying the learning styles preferences of 316 secondary PGCE trainees (see appendix B). Data was collected during 2005-2008 and analysed using descriptive statistics only to identify the frequency and distribution of their learning styles preferences and to identify differences between the characteristic preferences of trainees in English, mathematics and science. The findings of the quantitative data analysis are discussed in Chapter 4.

Subsequently, a series of three semi-structured interviews were undertaken across 2006-2007 with 12 English trainees (see appendix C and appendix D), employing an in-depth phenomenological approach described by Seidman (2006). These interviews were used to explore the trainees' prior experience and predispositions, their experience and attitudes towards their PGCE training, and their experiences of teaching itself. Data from these interviews was analysed qualitatively using an interpretative approach suggested by Denscombe (2003). The findings are discussed in Chapter 5.

1.4   Outline of the thesis

This thesis is organised into a series of chapters. Chapter 1 describes the context in which the research project was conceived, planned and executed. It also provides a justification for the research and outlines the two key research questions.

Chapter 2 explores selected literature that is pertinent to this study. It considers definitions of learning styles and describes some of the most influential theories and models in the field. It also provides a rationale for choosing the ILS as a valid and reliable instrument. It then discusses relevant learning styles research, with particular attention given to professional development and teacher education, and offers a justification for further research in this area.

Chapter 3 provides a rationale for selecting a mixed methods approach and considers the merits and potential difficulties of using questionnaires and interviews. It also describes the research processes undertaken and considers the ethical implications of carrying out such a study.

Chapter 4 presents the results from the quantitative survey. It analyses the frequency and distribution of the learning styles preferences and identifies differences between the learning styles preferences of English trainees and their mathematics and science counterparts. It considers these findings in relation to the literature. Chapter 5 examines the data from the interview transcripts and relates this to the literature. It considers the influence of prior educational experience on the learning styles preferences of trainee teachers. It also discusses the impact that these preferences have on their learning and development as teachers. Finally it explores the impact that a trainee's learning styles preferences has on the approaches that they routinely take when teaching.

Chapter 6 offers a number of conclusions about each of the research questions and considers the implications that these findings have for theory, policy and practice. It reflects on the limitations of the research presented in this thesis and points to areas where future quantitative, qualitative and mixed methods research is worthwhile and desirable.

Chapter 2: Literature Review

2.1 Introduction

Over forty years, learning styles researchers have generated an extensive and often controversial body of literature. The most recent and comprehensive critical review of the field found more than 3800 references (Coffield et al., 2004). According to De Vita (2001: 166) the literature offers a *'rich but fragmented theoretical landscape',* whilst Desmedt and Valcke (2004: 445) suggest that educationalists and researchers are *'often daunted by the multitude of definitions, theoretical models and learning style instruments.'*

This chapter considers why the term 'learning styles' continues to evade satisfactory definition, often leaving the would-be researcher in a *'tangle of terminology'* (Rayner and Riding, 1997: 21). It also explores why the field has come under severe criticism in recent years. The chapter then outlines a number of influential learning styles theories that influenced the Felder and Solomon (1994) Index of Learning Styles. It considers briefly the extent to which these models are valid, reliable and of relevance to teachers and teacher educators. Subsequently, it examines recent research and reflects on the intricate relationship between learning styles, teaching styles, subject specialisms, and teacher development. The final part of the chapter presents a case for revisiting learning styles as a theoretical field that has practical benefits for pre-service and in-service teachers, as well as providers of teacher training and professional development.

2.2 Learning styles theory and research

It has been widely recognised that individuals learn best in different ways and this is frequently described as a 'preferred learning style' (Austin, 2004; Felder, 1993; Felder and Silverman, 1988; Felder and Spurlin, 2005; Kolb, 1984 and 1985; Petty, 1998; Pritchard, 2005; Tickle, 2001). Proponents of learning styles theory and practice maintain that the insights gained from research offer important contributions to our understanding of how individuals learn best, particularly within the context of the teacher-learner relationship (Briggs, 2000; Cassidy, 2004; Cavas, 2010; Entwistle, 2001; Evans, 2004; Evans and Sadler-Smith, 2006; Evans and Waring, 2006; Felder and Spurlin, 2005; Ginnis, 2004; Hadfield, 2006; Honey and Mumford, 1992; Kolb, 1984 and 1985; Nielsen 2008; Petty, 1998; Pritchard, 2005; Reiff, 1992; Sadler-Smith and Smith, 2004; Sprenger, 2003; Tileston, 2004a and 2004b).

Critics, however, argue that much of the intuitive appeal of learning styles theory derives from a largely unproven set of common sense beliefs which have attained unjustifiable significance often as a result of government policy and inspection regimes (Adey, 2007; Caple and Martin, 1994; Coffield et al., 2004; DEMOS, 2005; Franklin, 2006; Metallidou and Platsidou, 2008; Reynolds, 1997; Schlesinger, 1996; Smith, 2005; Stahl, 1999; Swailes and Senior, 1999).

2.2.1 The roots of style

Attempts to classify human behaviour and attitudes can be traced back over two and a half thousand years. Honigsfeld and Schiering (2004: 488) suggest that the first documented reference to learning styles may be Confucius' well-known saying *'I hear and I forget, I see and I remember, I do and I understand'*. However, it was not until the middle of the 20th century that the concept of learning styles –

the recognition that individuals learn new and difficult skills in different ways – came to prominence (Honigsfeld and Schiering, 2004). Several commentators note that Allport (1937) was the first author to make an explicit association between 'style' and cognitive processes (Morgan, 1997; Rayner and Riding, 1997, Sadler-Smith, 1999 and 2001). This interest in style developed out of a growing frustration with research into 'intelligence' which had failed to throw light onto the processes that generate individual differences and led to the development of various 'abilities', 'styles' and 'dimensions' of cognitive processing.

2.2.2 Definitions of learning styles

Arriving at an all-encompassing definition of 'learning styles' is problematic because there remains a lack of consensus about which is the preeminent styles construct. Healey, Kneale and Bradbeer (2005: 31) observe that some articles *'refer to learning styles, others to learning approach and learning orientation. Often, the same construct is described in different terms and the same term can be used to refer to quite different constructs'.* Price (2004) notes that the various terms are often used interchangeably, arguing that this makes it impossible to arrive at a coherent and comparative analysis of results between studies. Hadfield (2006: 370) criticises the *'Humpty Dumpty approach to terminology' in* which some theorists invent their own words for terms that already exist within the field. This lack of agreement has been at the heart of much of the recent criticism of learning styles research (Coffield et al., 2004). Indeed, this researcher is often met with visible unease when describing his work, born it seems out of the listener's unshakable view of what the term means and which constructs it relates to.

Several authors (Cavas, 2010; De Vita, 2001; Felder and Spurlin, 2005) suggest usefully that a benchmark definition is provided by Keefe (1979: 2) who describes learning styles as *'characteristic cognitive, affective, and psychological behaviours that serve as relatively stable indicators of how learners perceive, interact with,*

and respond to the learning environment'. This definition provides an excellent starting point when positioning the research presented here. Crucially, it captures the complex interplay between what individual learners (in this instance the trainee teacher) bring to the learning situation (the PGCE) and how those predispositions affect the quality of their learning experiences (during centre-based and school-based contexts).

The terms 'learning style' and 'cognitive style' are often used synonymously. Some commentators suggest that cognitive style is merely the 'technical' term for learning styles (DEMOS, 2005: 10). Cassidy (2004: 420-421) offers a sharper distinction, arguing that cognitive style is *'an individual's typical or habitual mode of problem solving, thinking, perceiving and remembering',* whereas learning style refers to the *'application of cognitive style in a learning situation'.* This definition is also particularly relevant to the research presented here because it focuses attention on the impact of a particular (theoretical) style construct within the (actual) learning arena.

Definitions also commonly reflect the extent to which learning styles are considered to be *stable traits.* Thus, for many commentators, individuals are born with particular preferences and these are shaped through experience, becoming *relatively stable* characteristics by the time an individual reaches maturity (Davis and Franklin, 2004; Healey et al., 2005). This notion of stability is particularly important to the research offered here. Firstly, it appears reasonable to suppose that trainees (as adult learners) will begin their PGCE course with a set of habitual preferences. Secondly, it is proposed that (given the diverse nature of learners in secondary classrooms) it will be valuable for trainees to consider the possible impact of such relatively stable preferences on their developing approaches to teaching.

2.2.3 Recent criticism of learning styles theories

As early as the 1960s, commentators began to raise concerns about the style construct which was often based on single experiments and limited empirical evidence, and these doubts have dogged the field ever since (Morgan, 1997). Two recent reports, however, have been especially critical of learning styles. The have set the tone for much of the subsequent debate about learning styles research and influenced the direction of the study presented here.

In June 2004, the Minister for Schools and Standards commissioned the think tank DEMOS to establish a working vocabulary for practitioners and policymakers around the concept of learning for pupils of school age and to clarify the concept of 'Learning to Learn' (Demos, 2005).

In their report, the authors identify three main problems when evaluating learning styles. Firstly, they argue that the research evidence is variable, often slender, and that the measures used are often of doubtful validity and reliability. Indeed, they suggest that the instruments that are most popular in schools are often the ones for which there is the least evidence. Secondly, they state that there is even less evidence that learning styles enhance the quality of teaching and learning when applied in the classroom. Finally, they point to the fact that some teachers, usually unintentionally, are using learning styles in a way which constitutes poor professional practice. Often, the use of learning styles can lead to the teacher labelling pupils and restricting opportunities that in turn damages a pupil's learning and development.

In spite of this sharp criticism, they recognise that learning styles approaches can have a positive impact on the development of personalised learning. Many teachers, they suggest, *'are successfully using learning styles as a means of getting students to reflect deeply on their learning and thus develop their metacognitive capacities'.* (DEMOS, 2005: 11). Furthermore, they conclude that

there *is* value in, and a need for further research at both a practical and scientific level to establish a better evidence base for learning styles, thus providing a guarantee of sound professional practice.

Above all other publications, the Learning and Skills Research Centre report 'Should we be using learning styles?' (Coffield et al., 2004) has had a significant and somewhat demoralising effect on the learning styles community. Its findings feature prominently in many subsequent literature reviews (Adey, 2007; Alty, Al-Sharrah and Beacham, 2006; Franklin, 2006; Hadfield, 2006; Healey et al., 2005; Smith, 2005; Tripp and Moore, 2007).

The report draws on a comprehensive review of the literature. It identifies 71 learning styles models and critically reviews 13 'major models'. The final report is almost exclusively dismissive of learning styles theory and instruments. Indeed, the authors conclude that:

1. Learning styles questionnaires and instruments are not objective measures and frequently rely on the subjective answers of the respondents;
2. Many test items are ambiguous;
3. Many popular models are promoted by vested interests and commercialism and actively avoid academic scrutiny or criticism;
4. Prominence is often unjustified as learning styles, however valid, are only one of a host of issues in the complex learning process; and
5. Conclusions drawn from increasingly elaborate statistical analysis are often increasingly simplistic. (Adapted from Coffield et al., 2004: 51-62).

Whilst the report is essential reading for any researcher in the field, its tone is, at times, unduly negative, giving only brief attention to the more positive aspects of research and research instruments. The authors claim they want to stimulate debate and yet are frequently scathing in their condemnation of learning styles theory and practice, admitting to their own *'high-flying hyperbole'* (Coffield et al.,

2004: 46). They argue that the claims of many learning styles supporters are *'overblown'* and *'disproportionate'* and criticise terminology that is *'neither neutral nor value-free'.* Yet, from the outset, the language of the report is equally loaded: it seeks to *'sift the wheat from the chaff'* and suggests that aspects of the field can be characterised as *'opaque'*, *'pedagogic sheep dip'*, *'a quasi-evangelical crusade'*, *'mindless and atheoretical'*, *'risible'* and ultimately *'worthy of scorn'.*

In a review of the report, Peterson (2004: 5) describes her discomfort at the authors' use of *'emotive embellishment for comic effects'* suggesting that the often scathing and value laden language of the report biases the reader against learning styles rather than allowing them to arrive at their own informed decision. In his introduction to the European Learning Styles Network (ELSIN) newsletter, forum president, Dr Steve Rayner (Rayner, 2004: 1), echoed the dejection felt by many researchers in the field, recognising a *'gathering consensus arguing previous styles research is flawed, or yet more damningly, the style construct is a chimera entirely irrelevant to the classroom or workplace learning context.'* By 2005, however, the general mood amongst learning style supporters was more optimistic. Rayner (2005: 5), now quite buoyant, argues confidently that:

> Style remains an important idea and that rather than seeing it as some form of teaching elixir or simple one-size solution for effective teaching and learning, it offers the potential for developing approaches to diversity and individual needs in the classroom. In this respect it is an opportunity to develop a 'Better-Fit Pedagogy'.

In spite of continuing, and at times hostile attacks, it can be argued that there is still much relevant and worthwhile research to be done in the field of learning styles. Indeed as Felder (2010: 1) recognises:

> Every two years or so, some academic psychologists conduct a literature review and conclude that no research supports the use of learning styles in teaching, and journal reviewers and editors treat this conclusion as a new revelation that once and for all debunks learning styles. These pronouncements have never had the slightest effect on the world academic community's extensive and continually growing use of learning styles models and assessment instruments, but that has never deterred others from repeating the exercise two years later.

The research presented here, therefore, arises out of a confident belief that learning styles concepts offer teachers and teacher educators a beneficial means of looking at and talking about the potential impact of their own preferences on their professional practice and professional development.

2.3 Learning Styles Theories and Models

Commentators note a plethora of learning styles theories, models and instruments, all competing for major status. Several detailed critical reviews of these theories and models provide helpful starting points for those new to the field (BECTA, 2005; Cassidy, 2004; Coffield et al., 2004; Curry, 1983 and 1990; De Bello, 1990; Desmedt and Valcke, 2004; Ginnis, 2004; Hadfield, 2006; Rayner and Riding, 1997; Reiff, 1992; Reynolds 1997; Smith, 2005; Stahl, 1999). This section describes a preferred typology that locates the ILS questionnaire (Felder and Solomon, 1994) within the broader family of style constructs. It also provides a succinct overview of those learning styles theories and models that are of particular relevance to its development and highlights why it was chosen as the most appropriate instrument for this study of trainee teachers.

2.3.1 Learning styles 'families': categorising learning styles theories

The typology favoured in this study was presented by Coffield et al. (2004). They suggest a continuum of five learning style 'families' (see table 1). On the left are those theorists who emphasise the role of genetics on fixed inherited traits. The centre ground includes those models that recognise the *idea of dynamic interplay between self and experience'* (Coffield et al., 2004: 20). In terms of the research presented here, it is the middle ground that is considered of greatest relevance in formulating the study into the preferences of trainee teachers and their experience

of learning to teach. Those to the right draw particular attention to the personal, environmental and organisational factors which affect a learner's take up or rejection of specific approaches to learning.

The authors identify a number of problems with their typology. Firstly, it risks overemphasising the differences between the various learning styles models. Secondly, the continuum masks the complexity of influence that one theory will have had in the development of another. Indeed, this is most apparent when discussing the various influences that prompted the development of the ILS as described below. However, in spite of these concerns, it can be argued that this typology provides the researcher or practitioner with a credible and very practical categorisation of the most commonly encountered styles theories.

2.3.2 Learning styles theories and their influence on the Index of Learning Styles (ILS)

The theories and models discussed below are those which are of particular relevance to the research presented here and were most influential in the development of the ILS (Felder and Solomon, 1994). Consequently, a number of well-known models have been consciously omitted. There is no discussion, for example, of Dunn and Dunn's 'Learning Style Inventory' (Dunn, Dunn and Price, 1985) which has been used mainly in schools but is based on a fixed traits view of learning styles. Furthermore, no reference has been made to the theories of Multiple Intelligences (Gardner, 1993) or Emotional Intelligence (Goleman, 1997). For whilst these are frequently encountered in school settings and professional development courses, and have been evaluated alongside other styles concepts (Franklin, 2006; Hadfield, 2006; Perry and Ball, 2004 and 2005; Vincent and Ross, 2001), they are concerned with aptitudes or types of 'intelligence' rather than preferred styles of learning.

Table 1: Five learning styles families (13 'major models' in bold), adapted from Coffield et al. (2004: 19)

Learning styles and preferences are largely **constitutionally based** including the four modalities: VAKT (Visual, auditory, kinaesthetic and tactile)	Learning styles reflect deep seated features of the **cognitive structure** including 'patterns of ability'	Learning styles are one component of a relatively **stable personality type**	Learning styles are **flexibly stable learning preferences**	Move from learning styles to **learning approaches, strategies, orientations** and **conceptions of learning**
Dunn and Dunn	**Riding**	**Apter**	**Allinson and Hayes**	**Entwistle**
Gregorc	*Broverman*	**Jackson**	**Herrmann**	**Sternberg**
Bartlett	*Cooper*	**Myers-Briggs**	**Honey and Mumford**	**Vermunt**
Betts	*Gardner et al.*	*Epstein and Meier*	**Kolb**	*Biggs*
Gordon	*Guilford*	*Harrison and Branson*	*Felder and Solomon*	*Conti & Kolody*
Marks	*Holzman & Klein*	*Miller*	*Hermanussen, Wiestra, de Jong & Thijssen*	*Grasha-Riechman*
Paivio	*Hudson*		*Kaufmann*	*Hill*
Richardson	*Hunt*		*Kirton*	*Marton & Saljo*
Sheehan	*Kagan*		*McCarthy*	*McKenney & Keen*
Torrance	*Kogan*			*Pask*
	Messick			*Pintrich, Smith, Garcia & McCeachie*
	Pettigrew			*Schmeck*
	Witkin			*Weinstein, Zimmerman & Palmer*
				Whetton & Cameron

(a) Brain theories and learning styles

Brain theory can be traced back to the ancient Greeks (Reiff, 1992; Pritchard, 2005; Hadfield, 2006) but it was not until the 1950s that Roger Sperry's 'split-brain' theory proposed that the two halves of the brain process information differently. The left hemisphere is said to favour *verbal*, *sequential* and *analytic* processing, the right to favour *global*, *holistic* and *visual-spatial* approaches. Although controversial and frequently criticised, this notion has influenced many subsequent learning styles theories. Felder and Spurlin (2005) note that brain based theories informed, in part, the development of the *sequential-global* dimensions of the ILS.

Pritchard (2005) states that many critics argue that brain-based learning theories are based on misconceptions and overgeneralise what we know about the brain. In spite of such criticism, he also notes that many established educators recognise the broader practical benefits of brain-based theories. Petty (1998: 124), for example, suggests that teachers should adopt both right-brain and left brain approaches so that the needs of most pupils are met at least some of the time. He argues persuasively that certain right brain approaches, helpful for all but crucial for others, are often ignored in classroom settings. Such useful approaches include: explaining by analogy or metaphor; providing overviews of complex explanations; summarising through mind-maps and other visual representations; and modelling through the use of demonstrations, case studies and anecdotes '*which show the whole in context*'. Rosenfeld and Rosenfeld (2004) looked at right-left hemisphere preferences within a year-long professional development course for in-service and pre-service English as a foreign language (EFL) teachers. By introducing these teachers to the brain based learning model, alongside other influential learning styles and cognitive styles constructs, they enabled the participants to successfully investigate, understand and respond more sensitively to individual learning differences amongst their colleagues and the learners they worked with.

(b) Fixed traits theories of learning styles and VAK

Several influential learning styles theories are based on the belief that style is a fixed constitutionally based trait (Dunn et al., 1985; Gregorc, 1985 and 1998). Of these, visual, auditory, kinaesthetic (VAK) theory is arguably the most frequently encountered learning styles model in school education, both in Britain and the USA (Ginnis, 2004; Tileston, 2004a and 2004b). In fact, it is probably true to say that for most teachers learning styles *is* VAK (Evans and Waring, 2006; Smith, 2005; Sprenger, 2003).

The three distinct learning styles of VAK are often referred to as 'sensory' preferences or modalities because they relate to seeing, hearing and touching. Sprenger (2003) argues that sensory systems are crucial to learning, suggesting that the more senses are activated the more likely it is that information will be encoded. The author states that is important that teachers know the *'preferred sensory passageways'* of their students but even more vital that the *'students understand their preferences, so they can lead with their strengths'* (Sprenger, 2003: 45). Tileston (2004a: 15) also sees VAK learning styles as crucial when accommodating diversity in the classroom. She concludes that a successful teacher does *'not rely on only one modality or tactic for teaching, but provides information in a variety of contexts'.*

Critics question the notion that individuals have a 'lead' sense and argue that VAK instruments are unreliable and invalid (Adey, 2007; Coffield et al., 2004; Franklin, 2006; Smith, 2005; Stahl, 1999). Smith (2005) argues that Bandler and Grinder, seen as the originators of VAK, did not provide any empirical evidence to back up their claims. Others note that there has been little subsequent research to verify this theory (Adey, 2007; Coffield et al., 2004). Franklin (2006) is particularly scathing in her condemnation of VAK which she concludes is misleading for the teacher and limiting for pupils.

Felder and Spurlin (2005) note that the influence of VAK theory can be seen in both the *active-reflective* and *visual-verbal* dimensions of the ILS. In the context of the research presented here, it will be interesting to consider whether trainees exhibit 'lead' preferences and if there appears to be any value in encouraging individuals to leave their 'comfort zone'.

(c) Cognitive structure theories of learning styles

The dimension of *field-dependence* and *field-independence*, developed by Herman Witkin (1976), is often seen as *the* key cognitive styles construct (Cashdan and Lee, 1971; Desmedt and Valcke, 2004; Morgan, 1997; Reiff, 1992; Smith, 2002). Whilst Felder and Spurlin (2005) do not make an explicit link between this theory and the ILS's *sequential-global* dimensions, it is implicitly referenced within the numerous influences they cite.

Witkin's (1976) model is concerned with how individuals memorise and learn when presented with complex situations and materials, measured traditionally through tests involving geometric shapes. Two well known tests include the adult Embedded Figures Test (EFT) and the Group Embedded Figures Test (GEFT). *Field-dependent* individuals are deemed more 'global' (they have greater difficulty isolating the hidden or embedded figure). *Field-independent* individuals are seen to be more analytical and are not distracted by irrelevant background material (Reiff, 1992).

Whilst students with different learning styles preferences have the same intellectual ability, they are said to process and use information in different ways. *Field-independent* (or analytic) students are said to favour maths and science, whilst field-dependent (or wholist) students seem to thrive in the humanities, social studies and primary school teaching (Reiff, 1992; Smith, 2002). This last point is of particular interest when considering any potential differences between

the learning styles of PGCE trainees in the core subjects of English, mathematics and science.

(d) Learning styles and personality: the Myers-Briggs Type Indicator

For some theorists learning styles are one component of a relatively stable personality type (Coffield et al., 2004). One of the most widely used personality based instruments is the Myers-Briggs Type Indicator (MBTI) which classifies individuals according to their preferences based on the theories of 'psychological types' proposed by the Swiss psychologist Carl Jung (Reiff, 1992; Perry and Ball, 2004). According to the MBTI, individuals have preferences across four dichotomies: *extrovert-introvert; sensor-intuitor; thinker-feeler; judger-perceiver*. According to Reiff, (1992: 24) *'individuals make use of all four functions but differ in how well and how much they use each one'*.

Felder and Spurlin (2005: 103-104) note that the ILS's *sensing-intuitive* dimension *'is taken directly from the MBTI'*. Interestingly, the authors suggest that there may be *'a moderate correlation'* between this aspect and the *sequential-global* dimension. This is pertinent when considering the potential relationship between a trainee's self-reported learning styles and their subject specialism. It might be supposed, for example, that a combined preference for *sensing* and *sequential* approaches might be common amongst mathematicians and scientists, whilst a preference for *intuitive* and *global* approaches might be more frequently encountered amongst English trainees.

De Vita (2001: 167) suggests that the MBTI's *'length and high degree of sophistication'* is one reason why it is inappropriate in contexts where learning styles are the main object of enquiry. However, for some sceptics (Smith, 2005: 16), the MBTI is *'head and shoulders above any other learning styles questionnaire'* because it recognises that the way you think and learn is related to who you are as a person. However, it might be argued that whilst it is reasonable

to explore the impact that an individual's learning styles preferences have on their professional practice it is much harder (and potentially less ethical) to address the impact of differences in personality. Indeed, the research presented here focuses on improving the training and development of pre-service teachers and not as a means of identifying those traits that might make an individual more or less suited to a career in teaching. Worryingly, the use of aptitude tests for such ends is being considered as part of the coalition government's white paper proposals (DfE, 2010; TES, 7 January 2011).

(e) 'Flexibly stable' learning styles theories: Kolb and Honey & Mumford

The research presented here is strongly influenced by the idea that learning styles are *'flexibly stable'* (Coffield et al., 2004: 19). In this respect, whilst individuals typically exhibit habitual preferences for particular modes of learning, successful learners often adapt to changing environments and develop their ability to learn in less favoured contexts. In any study of trainee teachers, individuals will have proved themselves to be (to a lesser or greater degree) successful learners.

Chief amongst those learning styles theories that sit within this tradition is the influential work of David A. Kolb (Coffield et al., 2004; Desmedt and Valcke, 2004; Loo, 2004; Smith, 2005; Teixeira-Dias and Watts, 2006). Kolb (1984 and 1985) proposes that in order to learn from 'concrete' experience an individual must reflect critically on that experience, relate it to theory and plan how improvements can be made in the future. This four stage process is presented in a well known diagrammatic form as an 'experiential learning cycle' (Figure 1).

A learner may enter the cycle at any point but must move through all of the stages if the learning is to be embedded. Kolb argues that individual learners make use of all learning modes to a greater or lesser degree, but that each person has a preferred learning style. His 'Learning Style Inventory' (Kolb, 1985) is used to plot these preferences and identify the following four types:

- **Divergers** (learners who like to consider different perspectives and work with other people);
- **Convergers** (learners who like to solve problems, find practical solutions and work alone);
- **Accommodators** (learners who like to do rather than think); and
- **Assimilators** (learners who like to think rather than do).
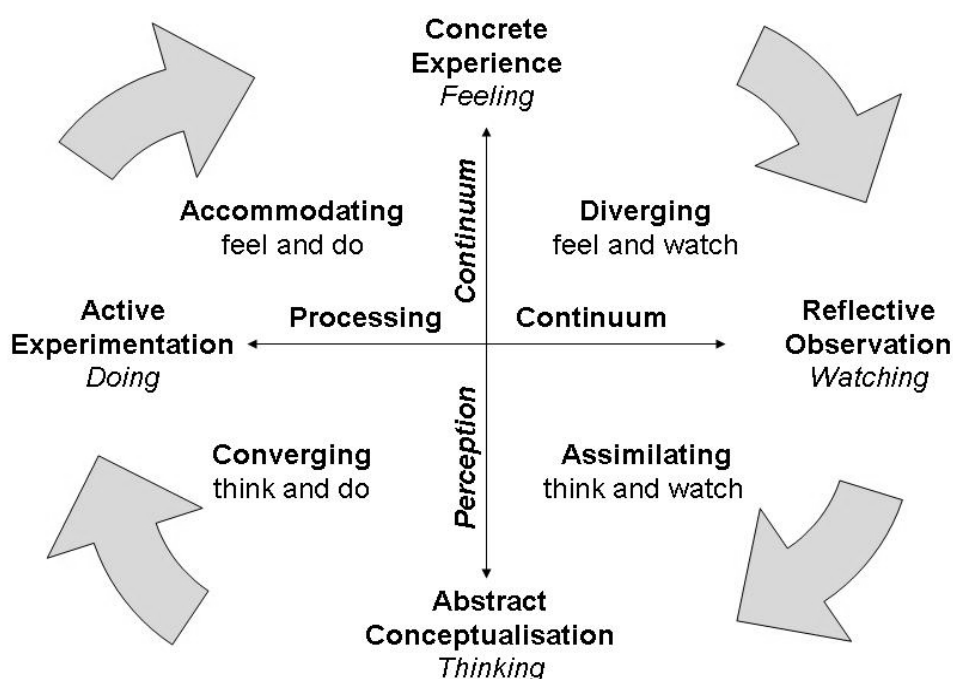
Figure 1: Kolb's two-dimensional learning model and four learning styles

Many have questioned the reliability and validity of Kolb's model (Coffield et al., 2004; Chapman and Galhoun, 2006; Curry, 1983; Duff, 2004a; Garner, 2000; Mettallidou and Platsidou, 2008; Sadler-Smith, 1999; Sewall, 1983). The model, although revised, is often seen to be based on a lack of empirical evidence. The construct validity of the four learning styles has been challenged whilst the stages or steps in the experiential learning cycle are seen to be flawed and based on
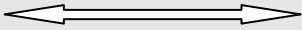
theory rather than research findings. More broadly, critics argue that the model does not fully address the process of reflection or take into consideration different cultural conditions and experiences. Nevertheless, the model and instrument remains one of the most widely used and influential. Felder and Spurlin (2005) note that the *active-reflective* dimension of the ILS is analogous with the same dimension of Kolb's model. Moreover, the *sensing-intuitive* dimension may have its counterpart in Kolb's *concrete-abstract dimension*.

Honey and Mumford (1992) also argue that learning styles are not fixed traits. The four types of learner described by their *Learning Styles Questionnaire (LSQ)* are similar to those proposed by Kolb. Thus, their *reflectors, pragmatists, activists* and *theorists* can be seen as broadly analogous to Kolb's *divergers, convergers, accommodators* and *assimilators*. Unusually, Coffield et al. (2004) conclude that the Honey and Mumford model has a number of strengths in terms of its implications for pedagogy, particularly as a means of personalising development plans and assisting managers to develop staff. Whilst Felder and Spurlin (2005) do not cite the Honey and Mumford model as directly influencing the development of the ILS, the LSQ shares the same strong associations with Kolb's model.

(f) Felder and Solomon's 'Index of Learning Styles' (ILS)

The 'Index of Learning Styles' (Felder and Solomon, 1994) is a 44 question instrument designed to assess preferences across four dimensions: *active-reflective; sensing-intuitive; visual-verbal;* and *sequential-global* (see appendix B). It was adapted from earlier work by Felder and Silverman (1988). The key characteristics of each learning styles dimension are summarised in table 2.

Table 2: Key characteristics of the four ILS styles dimensions, adapted from Felder and Spurlin (2005: 103)

Characteristics	⟵——————⟶	Characteristics
Learns by trying things out Enjoys working in groups	**ACTIVE-REFLECTIVE**	Learns by thinking things through Prefers working alone or with a familiar partner
Concrete thinker, practical, orientated towards facts and procedures	**SENSING-INTUITIVE**	Abstract thinker, innovative, oriented towards theories and underlying meanings
Prefers visual representations of presented material, such as pictures, diagrams and flow charts	**VISUAL-VERBAL**	Prefers written and spoken explanations
Employs linear thinking processes Learns in small incremental steps	**SEQUENTIAL-GLOBAL**	Employs holistic thinking processes Learns in large leaps

Each learning styles dimension has associated with it 11 forced-choice items, with each option (*a* or *b*) corresponding to one or the other category of the dimension (e.g. *active* or *reflective*). The method used to score the pencil and paper and on-line versions of the questionnaire subtracts the *b* responses from the *a* responses to obtain a score that is an odd number between -11 to +11. A score of 5-7 is deemed to indicate a *moderate* preference, whilst a score of 9-11 is deemed to suggest a *strong* preference.

Whilst the combination of dimensions is unique to this model, each dimension has parallels with other learning styles models as discussed earlier in this chapter (Felder and Spurlin, 2005). Although it is not possible to draw precise comparisons between the ILS dimensions and the styles concepts proposed by other theorists, table 3 offers a practical way of organising these. Using this model, it is also possible to make broad but nevertheless meaningful comparisons between the findings of the studies discussed later in this chapter.

Table 3: suggested correspondences between the ILS learning styles dimensions and other influential models

Felder and Silverman (ILS)	Kolb (LSI)	Honey and Mumford (LSQ)	MBTI	Cognitive	VAK	Split Brain
Active	Accommodator	Activist			Kinaesthetic	
Reflective	Assimilator	Theorist				
Sensing	Converger	Reflector	Sensing			
Intuitive	Diverger	Pragmatist	Intuitive			
Visual				Imager	Visual	Right brain
Verbal				Verbaliser	Auditory	Left brain
Sequential				Field independent Analytic		Left brain
Global				Field dependent Wholist		Right brain

The model has been the focus of a number of studies in education (Felder, 1993; Felder, Felder and Dietz, 1998; Felder and Henriques, 1995; Graf, Lin and Kinshuk, 2007; Hoskin, 2009; Lyndsey and Good, 2007; Pallapu, 2007; Tripp and Moore, 2007). As with all learning styles instruments, issues surrounding its reliability and validity have been fiercely contested. Viola, Graf, Kinshuk and Leo (2007) and Van Zwanenberg, Wilkinson and Anderson (2000) have questioned the validity and reliability of the ILS. Van Zwanenberg et al. (2000) tested the reliability and validity of the ILS and found, in particular, that the sequential-global dimension rated poorly in relation to Cronbach Alpha Coefficients (0.41). More recently, Viola et al. (2007: 15) questioned the basic assumption that '*every pairwise coupled*

styles belong to the same latent dimension in opposite ways'. They argue that greater statistical differences arise when, '*the multivariate dependencies between clusters of ILS questions are searched according to a data-driven approach, with respect to when only the scores are considered*'.

However, Felder and Spurlin (2005: 106) provide a detailed overview of a number of studies that have examined the independence, reliability and construct validity of the four instrument scales, showing that the ILS meets standard acceptability criteria (0.56 to 0.77 using the Cronbach's Alphas statistical technique) for an instrument of this type. Research conducted by Livesay, Dee, Felder, Hites, Nauman and O'Neal (2002), Zwyno (2003) and Litzinger, Lee, Wise and Felder (2007) also supports its continued use as a robust learning styles questionnaire.

Felder and Spurlin (2005) identify a number of issues relating to the use and potential misuse of the ILS. Significantly, the authors note that:

- Learning styles dimensions are continua, not either/or categories;
- Learning styles profiles suggest behavioural tendencies rather than being infallible predictors of behaviour;
- Learning style preferences are not reliable indicators of learning strengths and weaknesses;
- Learning styles preferences can be affected by educational experience, and
- The point of identifying learning styles is not to label individual students and modify instruction to fit their labels. (Adapted from Felder and Spurlin, 2005:105-105).

When choosing a learning styles questionnaire, it is incumbent on the researcher to select the instrument that is considered fit for purpose. The ILS was chosen, therefore, for several key reasons: It has strong face validity; the style dimensions match well with features of learning that are commonly encountered in the English secondary classroom and they are described in a language that is accessible and relevant to pre-service teachers and teacher educators. Importantly, the model is based on the assertion that learning styles preferences are 'flexibly stable'; they are open to change and development but present themselves as consistent characteristics of an individual's disposition towards learning.

2.4 Recent learning styles research

Much recent research has focused on identifying predominant learning styles preferences in different professions. Studies have, for example, helpfully mapped the learning style preferences of: nurses (Arthurs, 2007; Astin, Closs and Hughes, 2006; Snelgrove, 2004); doctors and surgeons (Contessa, Ciardello and Perlman, 2005; Mammen, Fisher, Anderson, James, Nussbaum, Bower and Pitts, 2007; Stimpson and Pulsa, 2004; Stratton, Witzke, Elam and Cheever, 2005) accountants (Duff, 2004b; Marriott, 2002) and automotive engineers (James-Gordon and Bal, 2001). These studies indicate that individuals in the same profession often share similar learning styles preferences and/or that those who succeed are able to adapt to the prevailing modes of organisational learning or development.

Other relevant research has focused on the potential link between learning styles and achievement. By comparison, surprisingly few studies have looked at the link between learning styles, teaching and teacher learning and development. A number of these studies are discussed below. As with much learning styles research, it is difficult to compare the results generated by researchers who use different style theories and instruments. Thus, where appropriate, and for ease of comparison, the corresponding ILS style dimension is given in square brackets next to particular style construct used in each study.

2.4.1 Learning styles and achievement

Much learning styles research has explored the potential link between learning styles and positive 'academic' achievement (Busato, Prins, Elshout and Hamaker, 2000; Cano-Garcia and Hewitt Hughes, 2000; Cassidy and Eachus, 2000; Diseth, Pallesen, Hovland and Larsen, 2006; Duff, Boyle, Dunleavey and Ferguson, 2004; Hallock, Satava and LeSage, 2003; Kvan and Yunyan, 2005). In terms of statistical significance, the results of such studies are often inconclusive.

Lynch, Woelfl, Steele and Hanssen (1998), in their study of 252 trainee doctors, found that *convergers* [sensing learners] and *assimilators* [reflective learners] performed better in multiple choice examinations, suggesting an advantage for students employing more abstract and analytical approaches to learning. Contessa et al. (2005) also found that surgical residents were predominantly *convergers*, perhaps unsurprising given that a surgeon's work requires rapid decision making and problem-solving. In their study, *convergers* also attained higher average multiple choice achievement scores. Interestingly, they found that most of the core faculty were also *convergers*. The authors surmise that, these attending physicians, responsible for teaching and assessing residents, may structure learning activities congruent with a converging style more than other styles.

Demirbas and Demirkan (2007) found in two out of three study groups, the performance scores of 273 architecture students were found to differ significantly in favour of *convergers*. The authors surmise that students who are *converger learners* are best at finding practical uses for ideas and theories – since design is considered a problem solving activity, *convergers* are successful in the design process.

Caution is necessary when considering the statistical significance of these studies. Whilst two of the projects were based on reasonable sample sizes, Contessa et al.'s (2005) findings are limited by the small number of individuals surveyed. However, they raise several issues that are of consequence to the research presented in this thesis. Firstly, the need to consider the extent to which the prevailing means of assessment in educational or professional settings rewards individuals with particular style preferences. Secondly, the need to ask whether those responsible for training favour approaches that reinforce or mirror their own, advantaging one type of learner over another. This may be of particular importance when considering the approaches favoured by trainers and school-based mentors and the trainee's response to approaches that match or contrast with their own preferences.

Some commentators have suggested that learners with preferences for *active* and/or interpersonal approaches are disadvantaged in educational settings. Woolhouse and Blaire's (2003), study of 126 A level students found that *theorists* [reflective learners] were three times as likely to achieve an A/B grade as compared to *activists* [active learners]. Furthermore, Van Zwanenberg et al. (2000), in their study of 284 engineers, found that *activists* were far more likely to fail course units than their *reflector* [sensing] counterparts, whilst Furnham and Medhurst (1995) suggest that *activists* are more likely to be poor attendees and hand in fewer essays.

Again, prudence is required when considering these studies as sample sizes are modest. Furnham and Medhurst (1995) surveyed only 21 university undergraduates making it unwise to extrapolate confidently on their findings. However, their results give further weight to the suggestion that educational settings are more accessible to and/or reward more frequently those students who share or adapt to the prevailing academic teaching and learning styles. Indeed, Woolhouse and Blaire (2003) suggest that students should be encouraged to utilise their theorist [reflective] learning potential to improve their performance. However, it is also important to ask whether teaching approaches should also be adapted to better suit those who are not *theorisers*. Such notions are of particular relevance to the research offered in this thesis. In the first instance, it is important to explore whether there are indeed prevailing approaches to teacher education that favour one type of trainee over another. In the second, there is a need to explore to what extent trainees are encouraged to reflect on the ways particular approaches to teaching might benefit or disadvantage different types of learner.

The research presented here does not aim to establish a direct link between trainees' learning styles preferences and their successful development as teachers. However, given the PGCE's theoretical and practical elements, it is appropriate to ask whether trainees with certain learning styles preferences succeed more readily in specific aspects of the course and whether there is any convergence amongst

trainees as the year progresses and the various elements of the PGCE come together.

In a study of 120 design students, Roberts (2006) considers just such a possible dynamic. He found that whilst undergraduates deemed *analytic* [sequential] performed better in the early stages of their architectural education, these differences levelled out as the course proceeded. Significantly, the author used qualititative interviews with some students to explore these issues and found that *analytic* students claimed to benefit from the tight framework provided in the first year, but found the more open-ended later structure in the course more challenging. Students from other groups suggested that they found the rigid nature of the first year a constraint and preferred the later projects where there were opportunities to think independently. This suggests several trails to investigate. It may be, for example, that a trainee's learning style preferences are most relevant at the start of the PGCE. Some trainees may start more slowly but then develop more quickly than their peers as the course progresses. On the other hand, it might be that a particular learning styles preference is both advantageous and disadvantageous in different contexts. Thus, for example, whilst a particular learning style might support detailed lesson planning it might diminish an individual's flexibility or responsiveness in the 'live' delivery of the lesson.

A number of studies have used the Index of Learning Styles (ILS) questionnaire to examine the potential link between learning styles and performance. Pallapu (2007), for example, employed the *visual-verbal* dimension of the ILS in a study of 22 learners on an Education degree, noting that 68% expressed a *visual* preference whilst 32% expressed a preference for *verbal* learning. Comparing the mean average of course points, the author found that *visual* learners did significantly better than *verbal* learners. However, the small sample size of this study makes generalisation impossible. Whilst it provides a loose benchmark with which to compare the distribution of these preferences, it has a number of weaknesses. Conveniently, it considers students as preferring one or other learning

style but does not utilise the ILS's capacity to distinguish between individuals with 'moderate' or 'strong' preferences. Perhaps more importantly, by using only one of the four ILS dimensions, it supposes somewhat naively that the *visual-verbal* dimension is *the* key style dimension affecting performance, ignoring the potential impact of other styles or combinations of preferences.

More noteworthy in this respect is Lyndsay and Good's (2007) study of 146 mechanical engineers which confirmed that for *sensing* learners, the 'Remote' (independent/solitary) mode appears to be most effective, whilst for *Intuitive* and 'Neutral' learners the 'Proximal' mode (collaborative/group) leads to the strongest learning outcomes. This is potentially important in the context of the research presented here. Training to be a teacher involves a range of learning contexts that incorporate both remote and proximal modes. Typically, the HEI based training will incorporate lectures and the use of online resources as well as cross-curricular and subject based seminars and workshops. Training in schools, by contrast, requires a trainee to draw on their own individual skills whilst supported by input from their subject mentor. As such, there is ample opportunity for an individual to encounter the modes of learning that are best suited to their style preferences, but equally to find themselves frustrated by a lack of the right mode at the right time. This could be particularly important if trainees from different subject specialisms are found to habitually favour different learning styles.

By contrast, a number of studies have found no or only weak correlations between learning styles and performance (Fox and Bartholomae, 1999; Terrell, 2002). In their study of social and auditory learning environments, Davis and Franklin (2004: 4) found little correlation between style and performance, concluding that learning and the educational setting is:

> a very complicated balance of learning styles, teaching styles, personality types, environmental factors, innate physiological and psychological factors, motivation, socioeconomic background, culture, and numerous other factors that may affect the learner.

Their apt description of the multi-dimensionality of learning underpins why the search for a direct link between style and performance is, as Van Zwaneneberg et al. (2000) suggest, somewhat naive. However, it is clear from the literature discussed above that there are discernible 'tendencies' for particular styles of learning to be more effective in specific contexts or amongst particular groups of learners.

2.4.2 Learning styles, teaching approaches and supervision

Several commentators argue persuasively that knowledge of learning styles theories can benefit learners and teachers (Evans and Waring, 2006; Felder, 2010; Hadfield, 2006; Honigsfeld and Schiering, 2004; Nielsen, 2008; Peacock, 2001; Reiff, 1992; Rosenfeld and Rosenfeld, 2004; Tripp and Moore, 2007; Veronica and Lawrence, 1997). This view underpins the assumptions made in the research presented here. The research questions and methodology are influenced, in particular, by Smith's (2002) view that teachers should be aware of: the value judgements being made by a particular learning styles theory or instrument; their own preferences and what impact this is having on the way they teach; and their students' individual preferences. In this respect learning styles should not seen as a panacea but as part of an ongoing critical discourse between teachers and learners.

Lyndsey and Good (2007) argue that learning styles can be used as a diagnostic tool to help teachers plan lessons that better match pupils' needs and/or to provide them with the necessary support to tackle unfamiliar or challenging activities. Such a view is at once appealing and problematic. The main question is whether a simplistic matching of the learner's preferred style to a particular teaching approach is the key to success or whether individuals benefit more from approaches that develop those styles they are less comfortable with. Poon and Fatt (2000) suggest that learning is often taken for granted because students are

assumed to be academically capable of understanding lessons and assignments. They argue convincingly that more consideration should be given to the way students learn, recommending that the way teachers teach should match the way students prefer to learn. However, many commentators argue fervently that there is very little evidence that such *matching* has any great benefit for learners (Coffield et al., 2004). Indeed, Stahl (1999: 1) claims an *'utter failure to find that assessing children's learning styles and matching to instructional methods has any effect on their learning.'*

This ongoing lack of consensus about the value of learning styles is pertinent to the study presented here. It is hoped that through the use of in depth semi-structured interviews it will be possible to identify how the quality of the learning experience is affected by different styles preferences and to add meaningfully to the debate about the potential value of matching.

A significant small-scale qualitative study in this respect was undertaken by Cartney (2000). She examined the perceptions of eight social work practice teachers and their students using Honey and Mumford's LSQ and semi-structure interviews. Of particular importance, she notes that all practice teachers felt that their learning styles influenced their teaching with several noting that they taught their students in the way they learnt best rather than focusing on promoting their students' mode of learning. Whilst the sample size was small, the benefit of using a styles questionnaire alongside semi-structured interviews as a means of exploring the experiences of the participants can be seen clearly in the rich exemplification provided by such qualitative findings.

Another influential study was undertaken by Armstrong (2004). He analysed the impact of supervisors' cognitive styles on the quality of research supervision. His research suggests a clear, statistically significant and positive relationship between supervisors' cognitive styles, students' achievement grades for their 10,000 word dissertations, and students' perceptions of the quality of their supervision.

Importantly, he notes that the perceived quality of supervision increased when the supervisor had an *analytic* [sequential] cognitive style irrespective of whether they matched or mismatched with their students. Furthermore, students who were paired with *analytic* supervisors outperformed those who were paired with *intuitive* supervisors.

As the nature of the students' task was relatively complex, the author suggests it is perhaps not surprising that students preferred the reflective, logical and sequential approach of *analytic* supervisors. Importantly however, Armstrong notes that effective supervisory styles may very well change according to different educational contexts. This raises a number of questions in relation to the study presented here. In particular, it suggests that an area that requires attention is the relationship between the trainee and the subject mentor and the impact this has on their development. Whilst the study does not identify mentors' learning styles preferences, the trainees' perceptions of the quality of mentoring may reveal that certain approaches are more effective than others or that certain styles are perceived to be best suited to specific training issues or stages in their development.

2.4.3 Learning styles, teaching and teacher education

Studies of the learning styles of school-based teachers are surprisingly modest in scope. This factor underlines the need for further research into this area. Whilst several studies have begun to survey the learning styles preferences of teachers, the use of different style concepts and instruments makes direct comparison problematic.

Veronica and Lawrence (1997) used Honey and Mumford's LSQ to examine the learning styles of 353 main scale secondary teachers. Their study is important because it is one of the earliest attempts to look at the potential applications of

learning styles theories in British secondary classroom settings. The rationale for the study also influenced the focus of the research presented in this thesis. The authors ask important questions that stem from a belief that there are patterns in the learning styles preferences of teachers.

The authors conclude that teachers tend to share the same preference, namely *reflector* [sensing] with a 'back up' of *theorist* [reflective]. Importantly, they also suggest that where learning styles differ between teachers this may be due to subject specialism. They found, for example, that the learning style profiles for chemistry, physics, technology, and geography teachers were identical as were those for English, drama and history. Notably the preferred *activist* [active] style of English, drama and history teachers is the least favourite of the 'scientists'.

More significantly, they suggest that learning style preferences influence teachers' attitudes to learning. They argue that the main group of teachers [Reflectors/Sensors] often report that teaching means controlling information and the way in which pupils are expected to learn. Pupils are expected to *watch* and *listen*. They also express a need to ensure that pupils have all of the information they require and state that the only way for this to happen is to give it to them. *Activist* teachers, on the other hand, expect pupils to immerse themselves in doing the activity or experience, sometimes excluding opportunities to watch and observe.

This reasonably large study provides a useful benchmark with which to compare the findings presented in this thesis. Veronica and Lawrence (1997) outline several differences between the learning styles preferences and attitudes of teachers from different subject specialisms that can be tested further. There are two main difficulties with the study. Firstly, the constructs identified by Honey and Mumford (1985) do not line up neatly with those suggested by Felder and Solomon (1993) making comparison possible but cautious. Secondly, the authors do not make it sufficiently clear in their methodology how they gathered and interpreted the

information on teacher attitudes. It seems as though this was largely as a result of discussions held during the professional development sessions they ran. In spite of this, the study stands as an important starting point. Indeed, the authors conclude that there is a need for further research that should, as is the case with the study presented here, combine both qualitative and quantitative methods.

Woodrow and Jarvis (2001) and Jarvis and Woodrow (2001) also identified differences in the learning strategies of 628 PGCE trainees studying different subjects. Using concepts developed by Biggs (1987), they found that mathematics students lie at the *surface* learning end of the scale and English students at the *deep* learning end. The authors conclude that subject discipline is a key determinant of learning styles/strategy preferences. This is a large study which makes the findings potentially significant. Whilst it is difficult to make clear comparisons between the *surface/deep* learning construct and the ILS there is some value in equating these to the *sensing* and *intuitive* dimensions. More telling, however, is their suggestion that mathematics and English students/trainees are in some way polar opposites when it comes to learning styles preferences. This is an area that requires further investigation and underpins some of the assumptions made when formulating this study's research questions.

Perry and Ball (2004) used Kolb's model to compare the subject specialisms and learning styles of 336 BEd students. Usefully, they grouped subject specialisms into four broad areas: *English-Humanities*; *science-mathematics*; *health and physical education*; and the *Arts*. Their findings are particularly relevant to the research presented in this thesis. In particular, they offer a useful picture of the potential relationship between learning styles and subject specialisms using a model that has more direct resonance with the constructs of the ILS and is based on a reasonably large sample size. Although not statistically significant, their data supports seeing the *English-Humanities* group as favouring the *Diverger* [intuitive] style, whereas other groups favour an *Accommodator* [active] style. Importantly they note that a greater proportion of the science-mathematics group favour the

Converger [sensing] style than in the other groups. Interestingly, relatively few in any group favour the *Assimilator* [reflective] style. Perry and Ball (2004: 23) conclude persuasively that the data provides rich information for those involved in teacher education programmes, suggesting that beginning teachers:

> Will continue to favour these cognitive dispositions unless there is some structured intervention to broaden and further develop other ways of dealing with their professional practice.

This view is reasonable; however, their study is limited in that the analysis is wholly quantitative and as such does not facilitate exploration of the impact of any styles differences on the trainees' experiences of/and attitudes towards teaching and learning.

A study that combines both quantitative and qualitative methods in a manner which influenced the research presented here was conducted by Evans (2004). Significantly, she explored the relationship between the cognitive style and teaching style of 84 PGCE students and then interviewed 25 participants in order to ascertain their influences and concerns about teaching.

Data analysis revealed that two thirds of the trainees favoured *analytic* [sequential] approaches whilst 40% of the interview group claimed to teach in the way they were taught, even though some preferred alternative methods. Furthermore, *analytic* [sequential] trainees tended to show a greater concern for subject knowledge and developing pedagogy and the lack of critical feedback they had received from their mentors. On the other hand, *wholist* [global] trainees were more likely to raise issues to do with classroom management, lesson preparation and organisation and were more sensitive to situational features such as school culture or the quality of pastoral support from their mentor.

In a later study of 80 undergraduate students on a primary education degree, Evans and Waring (2006) found that 45% of students were *analytics* [sequential]

and 30% were *wholists* [global]. Their study reinforces the notion that with regard to teaching, *wholists* prefer less structure, use more illustrations, and are more informal and interactive in the classroom. *Analytics*, on the other hand, appear to be more structured and formal, to use speech in their teaching, and to place a greater emphasis on subject knowledge.

Both studies influenced the research presented here in that they examine explicitly the link between learning styles and teaching by focusing on the trainees' attitudes and beliefs. Evans (2004) selects the interview sample from trainees with more extreme scores whilst representing the range of style preferences. Such a method allows her to get at an incredibly rich amount of data from a small group. On the other hand, it could mask the potentially more balanced approaches of those trainees with moderate preferences. Also, as the interviews were single events, it is not possible to see whether, or to what extent the trainees' attitudes change during the course. The findings may be affected, therefore, by the point at which the interviews were conducted. The small size of the study is also a drawback in that the author recognises the difficulty in finding statistically significant correlations between style preferences and factors such as subject specialism. Evans and Waring's (2006) analysis on the other hand is based on written responses to a teaching style questionnaire. This has the benefit of providing a more detailed data set for analysis but potentially loses the depth and reflexivity of the interviews.

In some respects, Evans' (2004) findings recall Raven et al.'s (1993) small scale study of the relationship between the learning and teaching styles of 43 pre-service teachers. They also note that the majority of trainees were *field-independent* [sequential]. Interestingly, unlike Evans (2004) they found that the supposed *field-independent* characteristic of being 'subject centred' was not evident. They offer one plausible explanation that is pertinent to this research enquiry, suggesting a possible tension between the *field-independent* learners'

preference for student-centred approaches (as beginning teachers) and the subject-centred characteristics that emerge when they 'become' teachers.

2.4.4 Personalising learning and inclusive approaches to education

Several studies have examined how increased knowledge of learning styles constructs can improve teacher responsiveness to diversity and lead to greater personalisation and more inclusive classrooms.

Rosenfeld and Rosenfeld (2004) conducted a year-long professional development course designed to sensitise 14 English as a Foreign Language (EFL) teachers to their own and colleagues' learning differences. Many of the teachers reported important changes during the course. Of particular relevance, is that participants gained a new language to better understand themselves as learners/teachers and others as learners. Whilst the findings are limited by the small scale sample, the study benefits from its longer term exploration of the potential value of a range of style concepts and instruments. In particular, the data collected illuminates the ongoing experience of teachers who are able to reflect at regular intervals on the impact that their increased knowledge of styles has on their classroom practice. Similarly, Honigsfeld and Schiering (2004) identified the learning styles of 206 teacher candidates and explored, through taught sessions, the implications that these had on their teaching styles. Their study benefits from a larger sample size that enables a more detailed discussion of the multi-dimensional nature of the trainees' learning styles. In doing so it combines both quantitative and qualitative methods effectively. However, it is restricted in its scope as the trainees were in the very early stages of their development and had limited or no experience of putting their ideas into practice. Consequently, their testimonies are largely theoretical and untested in the diverse classrooms they refer to.

In their recent study, Tripp and Moore (2007) tried to address this potential gap between theory and practice. They looked at the learning styles of 28 elementary pre-service teachers and explored how knowledge of these helped them to make better decisions when choosing teaching strategies for different types of learners. Trainee teachers were then, as part of an assignment, asked to observe a group of students with different learning styles and to plan and teach a series of lessons and activities which met these needs. Their experiences were explored through a group discussion and reflected on in a written assignment; in this way the data is both rich and considered. Unlike the research presented in this thesis, Tripp and Moore's (2007: 29) study looks more specifically at the impact of the trainees' actions on their students rather than on their own development. They found, for example, that trainees became aware of a need to be *'more sensitive to people who are different'* and to go against their own learning styles in order *'to accommodate diverse learning styles'* in their classrooms. Nevertheless, their approach is pertinent to the study described here because it reinforces the importance of examining learning styles within the context of teachers' actual experiences in classroom settings.

Each of the studies described above, although relatively small in scale and constrained by their respective methodologies, confirms that there is an often catalytic value for teachers in developing an informed and critical view of learning styles concepts and instruments. This often helps them to understand themselves better as learners, to develop a more flexible repertoire of approaches as teachers and to plan more carefully with their pupils' needs in mind.

2.5 The enduring appeal of learning styles and a need for further research

Supporters of learning styles theories claim that learning styles have the potential to bring about practical improvements in terms of teaching and learning in schools, colleges and institutes of higher and further education (Felder, 2010; Ginnis, 2004; McLoughlin, 1999; Morgan, 1997; Petty, 1998; Pritchard, 2005; Sprenger, 2003; Tileston, 2004a and 2004b). Several commentators, in particular, have suggested that increasing teachers' understanding of/and sensitivity to their own learning styles and those of the learners who they teach can have beneficial effects for trainees, mentors and ultimately students (Evans and Waring, 2006; Nielsen, 2008; Rosenfeld and Rosenfeld, 2004; Tripp and Moore, 2007). These are summarised in table 4.

Evans and Sadler-Smith (2006: 80) warn against the curtailment of a crucial area of research as a result of the highly politicised view of styles as a convenient *'whipping boy'* in the broader debate about policy and professionalism in education. The authors argue that the application of styles has a direct relevance for education and training practitioners because it can support the development of teaching and learning techniques which may improve performance in learning. Furthermore, they maintain that such ideas have strong face validity with teachers and training providers because they enable them to identify the information processing preferences and needs of their learners.

Table 4: The practical benefits for teachers and mentors of increased understanding of/and sensitivity to learning styles

Practical benefits for trainee teachers and newly qualified teachers in classroom settings	Practical benefits for trainee teachers, university tutors and school based mentors in training and development contexts
Improved learner motivation and achievement through appropriate teaching and learning	Enhanced course design and organisation of developmental opportunities to meet the needs of diverse trainees/newly qualified teachers.
Development of teaching methods that are inclusive and meet the needs of diverse groups	Improved dialogue between mentor (or tutor) and trainee (or NQT) that leads to more meaningful consideration of learning and learning theories.
Recognition of the importance of the *learning process* as well as curriculum content	Raised awareness of the potential impact of the trainees'/NQTs' own preferences (and the dominant preferences of the placement schools) on teaching style and the effect that this can have on learners.
Removal of barriers to student learning by designing lesson sequences and interventions that meet the needs of all learners.	Raised awareness of the trainees' needs and potential to extend and develop their learning competencies.
Increased understanding of the teachers' role in creating successful learning environments.	Increased 'personalisation' of development opportunities and learning plans.

Tellingly, this need for further research into learning styles with a focus on the potential to affect positive change in the classroom at both teacher and learner level has also been recognised by even the most ardent critics (DEMOS, 2005; Smith, 2005). Indeed, Coffield et al. (2004: 43) concede that those detractors: *'Who dismiss all the practical consequences of learning styles research as either trivial or 'old hat' are missing opportunities for professional growth and institutional change'.* They identify 11 possible areas for future research projects. Of these recommendations, several are of relevance to the research explored in this thesis, in that they ask:

- How knowledgeable are tutors [and teachers] about the research field on learning styles and how adequate is the training they receive?

- What impacts are learning styles having on methods of teaching and learning?

- Do students and staff know how to monitor and improve their own learning via Metacognition?

- How far do different types of motivation affect students' and teachers' responses to knowledge about their learning styles?

It is apparent, therefore, that although the field is characterised by sometimes contradictory conclusions about learning style theories and instruments, there is an explicit, if uneasy, agreement that more research, focused on the lived experience of classrooms, is needed to substantiate whether knowledge and understanding of learning styles can have actual and lasting benefits for teachers and learners.

2.6 Chapter summary

Learning styles has been an important, if controversial, field of study for over forty years. There have been a number of attempts to bring coherence to the field which incorporates a confusing array of theories, models and instruments. Recent criticism of learning styles has questioned the validity and reliability of many styles constructs and has raised doubts over its pedagogical impact. However, much recent research has shown that learning styles remains a fertile arena, notably in relation to teacher training and professional development. All sides in the debate have called for further research, particularly that utilising a mixture of quantitative and qualitative methods and over an extended period of time. This study responds to that request.

Chapter 3: Research Methods

3.1 Introduction

This chapter describes the rationale, planning and implementation of the research into the learning styles preferences of secondary PGCE trainees and the potential impact that such preferences have on their experiences of learning to teach.

Denscombe (2003: 296) notes that *'in all accounts of research there needs to be some description and justification of the methods used to collect data'* so that the reader might judge *'how good the research is and whether any credibility should be given to its findings or conclusions'*. Holliday (2007: 8) adds that the qualitative researcher, in particular, must *'justify every move'*, demonstrating clearly how the research strategy is suitable to the social setting and the research-subject relationships within it. Helpfully, Silverman (2005: 304-305) advises that, when writing the research methods chapter, one should *'avoid over-defensiveness'* providing instead *'a set of cautious answers to questions that another researcher might have asked you about your work'*.

To answer these 'questions', this chapter summarises the rationale for the study and re-affirms the key research questions. It then examines briefly the quantitative and qualitative research paradigms, arguing that a mixed-methods approach is best suited to addressing the research questions set out in Chapter 1. It also describes the steps taken to ensure that the research procedures were ethical and that participants were not harmed in the process. The final section of the chapter outlines the actions that were undertaken to analyse the data.

3.2 Rationale and research questions

This study attempts to build successfully on the comparatively little we know about the learning styles preferences of trainee teachers across different subject disciplines. It also explores the 'lived experiences' of a group of trainee English teachers in relation to their self-reported learning styles preferences and examines the extent to which these shape the way in which they perceive and react to the training and development undertaken whilst learning to teach. It was informed by several recent studies of trainee teachers that have focused on examining the way individuals experience the process of learning to teach (Hobson, 2002 and 2003; Osterheert and Vermunt, 2001; Raffo and Hall, 2006; Wood, 2000;). The approach taken in this study was also influenced by an interest in biographical approaches to qualitative research which draw on the *'stories of individuals and other 'personal materials' to understand the individual life within its social context'* (Roberts, 2002: 3).

A choice was made early on in the planning of this study to focus on the experience of trainee English teachers. This decision was taken so as to enable a comprehensive account of the potential impact of learning styles differences within a particular subject and subset of trainee teachers, to consider both the 'general' and the 'specific' aspects of their learning styles preferences. For as Erben (1998:4) notes:

> The *general* purpose [of biographical research] is to provide greater insight than hitherto into the meaning of individual lives or groups of lives…The *specific* purpose of the research will be the analysis of a particular life for some designated reason.

In this respect, the overarching purpose of this study is to illuminate particular aspects of the trainees' lives as learners and teachers throughout their PGCE year. The specific goal is to help trainees and trainers gain a better understanding of the effect of learning styles preferences on teacher development and to consider which aspects of initial teacher education and continuing professional development might be improved to better facilitate professional growth amongst prospective, recently qualified and serving teachers.

It is from within this context that the two key research questions emerge. These are:

RQ1: To what extent do trainee teachers on a secondary PGCE course self-report learning styles preferences and are these affected by their subject specialisms?

RQ2: To what extent and in what ways do the learning styles preferences of English trainees impact on their experience of/and attitudes towards learning to teach?

In attempting to shed light on these questions, this study seeks to add significantly to the current debate on the value of learning styles research in relation to initial teacher education, whilst identifying a number of practical recommendations for providers of initial teacher training, NQT induction and ongoing professional development.

3.3 Justification for the research paradigm and methodology

Lankshear and Knobel (2006: 74) recognise that:

> While many questions/problems are of the type that presupposes one form of research from another, not all problems preclude multiple methods, and some positively lend themselves to studies that employ a mix.

It is helpful in the first instance, therefore, to look at the differences between quantitative and qualitative research. Holliday (2007) argues that such a discussion is necessary because often, when thinking of research at its most basic level, researchers often gravitate towards the rigorous and impartial techniques of modern scientific enquiry – the scientific method.

3.3.1 Quantitative approaches: positivism and the scientific method

Scientific method is often said to be the discipline which forms the foundation of modern scientific enquiry. Robson (2004) notes this 'standard view' of science derives from a philosophical approach known as *positivism.* Walliman (2005: 16) states that positivism *'holds that every rationally justifiable assertion can be scientifically verified or is capable of logical or mathematical proof'.*

Holliday (2007) argues that quantitative research, underpinned by a positivistic belief that reality can be mastered by the right research instruments, is *normative.* It supposes that there is a 'normality' that researchers can figure out, comprehend, and control through statistics and experiment. Adherents consider the universe as ordered in such a way that can be come clear to 'scientists' who, if they use the correct technique, can reveal *objective facts.* For Robson, (2004: 4) experiments, especially those that involve randomized control trials, *'are viewed by many as the gold standard for social research'.* The questionnaire survey has also been one of the most common and widely employed methods of research in this field. Robson states that both of these approaches are what one might call *'fixed designs',* that is they rely on quantitative data, statistical generalization and are considered by their proponents to be *'scientific'.*

Cohen, Manion and Morrison (2005: 9-10) argue that positivism is less successful when studying complex human behaviour because *'the elusive and intangible quality of social phenomena contrast strikingly with the order and regularity of the natural world'.* They argue that this is most apparent in the context of classrooms and the school. For these reasons, it is clear that a wholly positivistic approach is inappropriate for studying the lives of the trainees in an attempt to answer the research questions posed in this study. A quantitative approach, however, is justifiable as a suitable way to map out the frequency and distribution of learning styles preferences amongst trainee teachers so that comparisons can be drawn between groups. The gathering of quantitative data can be seen, therefore, as an initial exploratory approach that informs the more reflexive use of the in-depth

interviews. These qualitative approaches serve to illuminate the quality of an individual's lived experiences, so as to test out the relative merits of using learning styles theories in the realm of teacher education.

3.3.2 Qualitative and interpretive approaches to research

Walliman (2005) notes that from the second half of the twentieth century many commentators refuted the claim that scientific method could satisfactorily present a genuine understanding of the multifaceted relationships in society and between individuals. Importantly, Cohen et al. (2005: 22) suggest that the main schools of thought that offer an alternative to positivism (phenomenology, ethnomethodology and symbolic interactionism) share:

> a concern with phenomena, that is, the things we directly apprehend through our senses as we go about our daily lives together with a consequent emphasis on qualitative as opposed to quantitative methodology.

Holliday (2007) argues that for qualitative researchers the realities of the research context and the individuals in it are puzzling and can only be grasped superficially. The approach is, therefore, *interpretive*. As Cohen at al. (2005: 23) suggest, from this interpretive perspective, '*the hope of a universal theory which characterises the normative outlook gives way to multi-faceted images of human behaviour as varied as the situations and contexts supporting them*'.

Bogdan and Biklen (2007: 2) state that the best known methods of qualitative research employ the techniques of participant observation and in-depth interviewing. In particular, the authors stress the value of in-depth interviewing. They state that the approach enables the respondent to answer from their '*own frame of reference*', freely expressing their opinions around specific topics. Denzin and Lincoln (2008: 16) add that qualitative researchers believe that such techniques allow them to get closer to the actor's perspective, securing '*rich descriptions*' that offer detailed and often complex accounts of the social world. In

planning this study, therefore, it seems apparent that a qualitative approach is warranted in order to unlock the potentially complex experiences of the trainee teachers. Furthermore, the use of in-depth interviews appears to be the most apposite tool to gather such data.

Denzin and Lincoln (2008) also highlight some of the main criticisms of qualitative research. They note that qualitative research is potentially hampered by individual researcher bias and subjectivity. Some argue that the rich descriptions produced are unhelpful in that they interrupt the process of developing generalizations. Denzin and Lincoln (2008: 29) conclude that '*no single method can grasp all the subtle variations in ongoing human experience*'. It is with these concerns in mind that a mixed-methods approach appears best suited to answer the research questions posed in this study. Through such a combination of methods, it should be possible to identify any patterns in the learning style preferences of trainee teachers, whilst illuminating the complex and multi-faceted lived experiences of individuals learning to teach.

3.3.3 The mixed-methods approach to research

Many researchers believe that sharply drawn distinctions between quantitative and qualitative methods are oversimplistic. Holliday (2007:2), for example, suggests that '*qualitative research will always involve quantitative elements and vice versa*'. Lankshear and Knobel (2006) recognise that qualitative inquiry makes use of structured data collection instruments and statistical analysis when appropriate. Moreover, Robson (2004: 373) argues that researchers ought not to be: '*the prisoner of a particular method or technique when carrying out an enquiry*', and extols the virtues of flexible, multi-method approaches.

For many commentators, such as Cohen et al. (2005: 112), multiple methods can be used productively to address different but complementary questions within a

study. Robson (2004: 370) asserts that another valid reason for employing multiple methods is to allow the researcher to *triangulate* results by *'fixing'* on something from two or more places; to test out the extent to which results are attributable to the methods chosen; to address different but complementary questions within a study; and to enhance interpretability. He argues that by using additional methods, the researcher may avoid the deluding *'clear cut result'* that leads to *'specious certainty'*. Thus, even fearsome critics of learning styles theories such as Coffield et al. (2004: 58), recognise the potential rewards when *'in-depth qualitative studies are used in conjunction with an inventory to capture a more rounded picture of a students' learning'*.

The mixed-methods approach described here, therefore, goes some way to addressing any underlying and perennial concerns about the 'validity' of findings from this learning styles research.

3.4 Research techniques

The research techniques described here are similar to those used effectively by Cools and Den Broeck (2008) in their study of managerial behaviour, Maaranen, Kynaslahti and Krokfors (2008) in their exploration of the links between workplace learning and teacher learning, and by Hobson (2002) and Christie, Conlon, Gemmel and Long (2004) in their investigations into trainee teachers' perceptions of PGCE supervision and mentoring. In this respect, the ILS questionnaire and a set of in-depth semi-structured interviews were employed as the most appropriate means of gathering the data needed to address the research questions posed in this study.

3.4.1 Questionnaires

Walliman (2005) argues that questionnaires are an extremely flexible means of data collection. They can be a relatively economic method, in cost and time, for gathering data from a large number of people. Cohen et al. (2005: 245) state that whilst there are many different types of questionnaire, researchers might do well to follow a *'simple rule of thumb'* when selecting one that is appropriate for their research:

> The larger the size of the sample, the more structured, closed and numerical the questionnaire may have to be, and the smaller the size of the sample, the less structured, more open and word based the questionnaire can be.

Cohen et al. (2005: 248) state that closed questions are advantageous in that *'they are quick to complete, straightforward to code and do not discriminate unduly on the basis of how articulate respondents are'*. Furthermore, closed questions and highly structured questionnaires (such as the ILS) are useful because they enable the researcher to identify frequencies of response that are open to statistical analysis. Importantly, they also enable meaningful comparisons to be made across groups in the sample. For the type of study presented here, an established styles questionnaire is regarded as the *best* means of gathering the data about the learning styles preferences of individuals and groups.

3.4.2 Felder and Solomon's 'Index of Leaning Styles' (ILS)

Learning styles questionnaires have been the predominant data gathering tool in the field of styles research. Recently, these instruments have been fiercely criticised for their reliability or validity (Coffield et al., 2004). Indeed, there are few established styles questionnaires that come without a certain amount of scepticism. With this in mind, the ILS (Felder and Solomon, 1994) was chosen for a number of practical and philosophical reasons. The features of this model, its

potential uses in educational settings, and issues of reliability and validity were discussed in detail in Chapter 2.

A distinct advantage of using an established learning styles questionnaire, such as the ILS, is that it has already undergone the development, trial and revision stage. As such, it provides the researcher with a reliable and valid research tool that can be used to collect data immediately. The ILS is also available freely for use in academic research and can be accessed easily online. This makes the questionnaire transparent and available for scrutiny; other researchers can replicate the study quickly, with neither financial constraint nor special training to administer it or analyse the data it produces.

Essentially, however, the ILS was chosen above other questionnaires because it is deemed reliable, valid and 'fit for purpose'. It allows a researcher to gather the right data quickly and unobtrusively and to describe the learning style preferences in a language that is clear and meaningful for those involved in education and training at all levels.

3.4.3 Semi-structured interviews

Robson (2004: 269-270) states that interviews *lend themselves well to use in combination with other methods, in a multimethod approach'.* Seidman (2006: 8-9) argues that the purpose of in-depth interviewing:

> is not to get answers to questions, nor to test hypotheses, and not to "evaluate" as the term is normally used. At the "phenomenological" root of in-depth interviewing is an interest in understanding the lived experience of other people and the meaning they make of their experience.

For these reasons, in-depth semi-structured interviews were chosen as the most suitable means of accessing the data required to answer the qualitative questions posed by the study.

Cohen et al. (2005: 270-271) suggest that interviews differ in the openness of their purpose, the extent to which they are exploratory or hypothesis testing, whether they are largely cognitive focused or emotion-focused. In addition, a major difference is the degree to which the interview is structured. They argue that the important issue when deciding on an appropriate type of interview is that of *'fitness for purpose'*, suggesting that:

> The more one wishes to gain comparable data across people, across sites – the more standardised and quantitative one's interview tends to become; the more one wishes to acquire unique, non-standardized, personalized information about how individuals view the world, the more one veers towards qualitative, open-ended, unstructured interviewing.

Lankshear and Knobel (2006: 202) conclude that whilst semi-structured interviews, such as those used in this study, can never be repeated in exactly the same way with each interviewee, they incorporate the benefits of both structured and unstructured approaches, whereby *'Researchers can readily compare different responses to the same questions, while at the same time remaining open to important but unforeseen information or points of discussion'*.

This study also employed an approach described by Seidman (2006: 15) as *'in-depth, phenomenologically based interviewing'*. The process he describes was influential in designing the interview schedule used in this study (see appendix D). His model consists of a series of three separate interviews with each participant. In the first interview, the researcher aims to put the participants' experience into context up to the present time. In the second interview, the researcher concentrates on the concrete details of the participant's present lived experiences. In the third interview, the researcher asks participants to reflect on the meaning of their particular learning experience. This structure enables the researcher to better understand the lived experience of the interviewees as the stories they tell and the narrative perspectives they adopt change over time. Such narratives are central to a biographical approach (Erben, 1998) and are instrumental when studying the way individuals can learn from experience (Clarke, 2002).

3.4.4 Interviews: issues of reliability and validity

Both Oppenheim (2001) and Robson (2004) describe several practical disadvantages of using qualitative, in-depth interviews. They point to the time consuming nature of conducting the interviews and highlight the demands of careful preparation – arranging visits, securing permissions, scheduling and rescheduling interviews. Furthermore, notes need to be written up, tapes need to be transcribed and transcripts need to be analysed. Of greater significance to this study is the concern about the validity of the data collected through such techniques. Importantly, Lankshear and Knobel (2006: 181-188) suggest that validity in qualitative data collection:

> is a matter of taking care to do the best job one can to construct data collection instruments faithful to one's informed and developed concepts of the phenomenon one is investigating, and then to apply them carefully and consistently.

Moreover, Silverman (2005: 209) notes that readers will often doubt the validity of an argument because it fails to deal with contrary cases and uses only *'telling examples'*. The author proposes, therefore, that qualitative researchers avoid using only well chosen cases that leave them open to criticism of *anecdotalism*. He suggests several ways of thinking critically about qualitative data analysis that were employed during the study described in this thesis. These included:

- Seeking to refute initial assumptions about the data in order to achieve objectivity;
- Constantly attempting to find other cases through which to test out any provisional hypothesis;
- Examining all instances of a phenomena in order to identify *deviations* from the originally stated phenomena; and
- Using any deviant cases to strengthen the analysis.

Lankshear and Knobel (2006: 199) conclude that data collected from interviews are always *'partial and incomplete'* and should not be seen as a direct representation of some "truth". However, they argue that despite such limitations, interviews *'remain the best available means for accessing participants' opinions,*

beliefs, values and situated accounts of events at a particular point in time'. As such, it can be argued, there is considerable value to be had from obtaining rich in-depth data from the interviews to add to and support the results from the ILS questionnaire.

3.5 The selection of population and sample

In this study, the population includes all one-year secondary PGCE trainees. A series of opportunistic or convenience samples (n = 316) were used across four academic years (2005-2009) with trainee teachers undertaking a one year secondary PGCE programme at a south coast university. These samples were used to gather descriptive data using the ILS questionnaire.

Denscombe (2003: 17) argues that convenience sampling represents *'a lazy approach'* to work and as such is *'hard to equate with good research'.* However, a number of the studies described in Chapter 2 used similar sampling techniques (Evans, 2004; Evans and Waring 2006; Jones, 2000). Indeed, opportunistic samples have been used frequently with *'captive audiences such as students and student teachers'* (Cohen et al. 2005: 102). As Jones (2000: 64) notes, this method of selecting a sample is largely determined by practical considerations, such as *'gaining access to data within tight limits imposed in terms of time, funding and logistics'.* Whilst there will inevitably be differences between cohorts within and across institutional settings, recruitment criteria for the PGCE mean that these samples are likely to share many similar characteristics with the wider population. It can be argued, therefore, that there remains a discernible value in generalizing from the results.

'Purposive' sampling was then used to identify an interview group of 12 trainees (f = 7; m = 5) from the 2006-2007 English cohort (see appendix C). Walliman (2005: 279) describes purposive sampling as the means by which *'the researcher selects a "typical" sample'*. As Cohen et al. (2005: 104) acknowledge *'it is deliberately and unashamedly selective and biased.'* However, as Denscombe (2003: 16) notes, the advantage of this method is that: *'it allows the researcher to home in on people or events which there are good grounds for believing will be critical for the research.'* Thus, the sample was chosen to include those trainees who expressed the strongest preferences across the full range of styles dimensions, in a manner similar to that used by Evans (2004) in her study of the relationship between cognitive style and teaching style.

3.6 Research ethics

Bogdan and Biklen (2007: 48) argue that common concerns dominate official guidelines of ethics in research. Informants should enter research projects voluntarily; understand the nature of the study and the dangers and obligations that are involved; and should not be exposed to risks that are greater than the gains they might derive. These principles were paramount in planning the research methods described here. The researcher was also guided by the codes produced by the British Educational Research Association: (www.bera.ac.uk/guidelines.htms) and that of the University of Southampton:

(http://www.southampton.ac.uk/inf/ethics_policy.html).

3.6.1 Ethical considerations: obtaining permissions

Permission to undertake the study was obtained following the presentation of a written proposal and a formal meeting with the head of school at the south coast university. Subsequently, discussions took place between the author and the

associate head of school and relevant subject tutors to explain the scope and nature of the research, with a specific focus on ethical considerations.

3.6.2 Ethical considerations: the questionnaire

Cohen et al. (2005: 245) argue that a questionnaire:

> will always be an intrusion into the life of the respondent, be it in terms of the time taken to complete the questionnaire, the level of threat or sensitivity of the questions, or the possible invasion of privacy.

Of particular relevance to this study, Felder and Spurlin (2005) rightly warn against potential misuses of the ILS questionnaire. These were discussed in Chapter 2. Thus, when selecting and administering the questionnaire, a number of ethical considerations were taken into consideration. This process is described in figure 2.

Before
- avoided bias and ensured validity and reliability of instrument through careful selection.
- ensured questions were sensitive and non-threatening through conducting small scale pilot

During
- gained informed written consent, by
- explaining that partcipation was voluntary and that respondents could withdraw at any stage
- highlighting the potential benefits of the resarch
- guaranteeing that they would not be harmed by the resarch
- guaranteeing confidentiality, anonymity and non-traceability
- reponding to the reactions and questions of the partcipants during and after the administration of the questionnaire.

After
- ensuring that all data was handled carefully and kept securely
- ensuring that data from individual questionnaires was not seen by thrid parties
- providing each cohort with feedback on the overarching analysis of their learning styles

Figure 2: summary of ethical considerations when using the ILS questionnaire

3.6.3 Ethical considerations: the interview schedules and interview conduct

Lankshear and Knobel (2006: 202) identify a number of ethical considerations when designing good quality interview questions. They argue that questions should be: unambiguous, single staged, non-leading, culturally sensitive and ethically formed. They conclude that when constructing ethically formed questions one should consider '*Would I like to be asked this question and be expected to respond to it*'. Thus, each question was examined in light of this statement and tested with a small number of local authority colleagues and two NQTS in different local schools to iron out any possible ambiguities.

All participants in the questionnaires and interviews gave verbal and written consent prior to the commencement of the first recorded interview (see appendix E). Interviews were conducted so as to be non-stressful and non-threatening. Participants were also told that they did not have to answer a question if they did not wish to do so, could ask for explanation and clarification at any point either prior to or during a response. Participants were informed that to ensure confidentiality, anonymised transcripts would be completed by the author alone, drafted as word documents and stored on a password protected computer. The digital recordings would be deleted following transcription. Copies of the transcripts were sent to participants for verification and so that, should they wish, they could withdraw consent for these to be used in the study. None chose to do so. Participants were also informed how findings would be disseminated to a wider audience. It was also emphasised that at any point in the process, participants could withdraw consent and that all copies of interview transcripts would be destroyed and data not used in writing of thesis. This last point is particularly significant for, as Oliver (2003: 47) asserts:

> Even when participants give their informed consent, they cannot necessarily be expected to anticipate their feelings about participation. It is important that as part of the induction and informed consent process, participants are reassured that they may withdraw from the research at any time. They should not have to give any notice about withdrawal, and they should not have to provide any explanation.

3.7 Research procedures

Decisions about the procedures taken to collect data for this study were guided by what Lankshear and Knobel (2006: 187) call *'the principle of elegance and economy'*, that is a practical and pragmatic concern with obtaining the greatest amount of high quality data from the minimum use of resources and with the least complexity in the operation.

3.7.1 Procedure for administration of the ILS questionnaire and data analysis

Bell et al. (2002) argue that pilot studies form a central part of the research process. Walliman (2005: 282) notes that questionnaires should be pre-tested on *'people of a type similar to that of the intended sample, so as to anticipate any problems of comprehension or other sorts of confusion'*.

Two small-scale pilots of the questionnaire were, therefore, conducted in 2005, one using the on-line version with a group of twelve work colleagues (local authority advisers with different subject specialisms) and the other using the pencil and paper version with a group of twenty-five PGCE English trainees from the 2004-5 cohort. Respondents were asked to voice their thoughts about the process, the questionnaire, and their perception of the validity of the results. This informed an early decision against remote use of the on-line version; it was far too difficult to manage efficiently and some participants felt threatened by the computerised format. The face-to-face pilot, however, enabled the researcher to anticipate the time constraints of administering the questionnaire, to reflect on the 'feelings' of those participating and to anticipate the types of questions they would ask.

Subsequently, 316 questionnaires were administered to PGCE trainees during a university based subject session in the autumn terms 2005-2008 (see table 5). All

questionnaires were administered by the author and in the presence of the subject tutor.

Response rates were excellent (99.2%), a factor which might be expected given the captive audience. Only three trainees (scientists) decided not to participate. Their tutor investigated (non-judgementally) why they had not wanted to participate so that improvements could be made to procedures in the future. The trainees responded that whilst it had been made clear that participation was voluntary, it was difficult to choose freely within the context of the university seminar. Consequently, the pre-questionnaire advice was amended so that it explicitly recognised this tension. Verbal instructions also emphasised that those did not wish to participate might wish to fill in the questionnaire for their own interest or professional development but not hand it in at the end.

Table 5: the total number of respondents to the ILS questionnaire 2005-2009 by subject specialism

Subject	2005-6	2006-7	2007-8	2008-9	Total
All	85	133	69	29	316
English	28	33	26	29	116
Maths	23	22	16		61
Science	34	32	27		93
MFL		19			19
Business		17			17
Geography		10			10

The results from the questionnaires were analysed using descriptive statistics only in order to identify the percentage of students who reported particular learning style preferences across the four ILS dimensions. The results were also used to compare the distribution of learning style preferences according to subject

specialism. The analysis was intentionally straightforward for, as Denzin and Lincoln (2008: 15) recognise:

> although many researchers in the postpositivist tradition use statistical measures, methods, and documents as a way of locating a group of subjects within a larger population, they seldom report their findings in terms of the kinds of complex statistical measures or methods to which quantitative researchers are drawn.

The gathering of quantitative data was, however, an important initial exploratory approach that helped to inform the qualitative data collection and analysis. The quantitative findings are discussed in detail in Chapter 4.

3.7.2 Procedures for conducting the interviews

Three separate in-depth semi-structured 'phenomenological' interviews were conducted with each trainee during the PGCE year 2006-07 (see figure 3). Two trainees withdrew from the PGCE and did not, therefore, complete the third interview.

Time was taken at the beginning of each interview to restate the purpose of the interview and the way in which data would be used, and prior to the first interview to gain 'informed consent' (see appendix E). Overall, the interviews lasted between 25 to 50 minutes, with a mean of 45 minutes. All interviews were recorded using a small, unobtrusive digital voice recorder.

Figure 3: timings of the three semi-structured interviews

Interview conduct was informed by a number of principles of good interviewing. Bogdan and Biklen (2007: 104-105), for example, state that effective interviewers *'communicate personal interest and attention to subjects by being attentive, nodding their heads, and using facial expressions to communicate'*. In addition, the good interviewer may ask for clarification when the respondent refers to something unfamiliar or probe the respondent to be specific by providing examples of the points they have made. Interviewees often need encouragement to elaborate. As the authors conclude '*not all people are equally articulate or perceptive, but it is important not to give up on an interviewee too quickly'*. Every attempt was made to put these good suggestions into practice.

3.7.3 Transcription of data and analysis of results

All interviews were transcribed by hand by the author between 2 August 2007 and 3 January 2008. Completed transcripts were sent to the participants so that they could check that their words and descriptions had been represented fairly, along with a reminder that should they so wish they could withdraw from participation in the study. None chose to do so.

Qualitative analysis of the interview transcripts was undertaken in a manner similar to that described by Denscombe (2003). This involved: coding the textual data into units; analysing and categorizing those units; reflecting on the early coding and categorizations; identifying connected themes and relationships; returning to the field to check out emerging explanations; developing a set of generalizations; and using these generalizations to improve on relevant existing theories. Seidman (2006: 118) argues that there '*is no model matrix of interesting categories that one can impose on all texts'*. However, Bogdan and Biklen (2007: 173-180) describe in detail a set of 11 *'families of codes'* which provided a helpful starting point.

3.8 Chapter summary

This chapter has outlined the rationale for the research approaches adopted in this study. It considers the key characteristics of the quantitative (positivist) and qualitative (interpretivist) research paradigms, arguing that a mixed methods research design is the most appropriate strategy to address the research questions posed. Subsequently, it critically examines the uses of questionnaires and interviews, highlighting why these are suitable tools for collecting the types of data required. It also describes what steps were taken to ensure that the research was conducted in an ethical manner and that none of the participants were harmed or disadvantaged by their participation. Finally, it sets out the procedures of how the data they produced were analysed.

Chapter 4: Data Analysis and discussion of the results from the Index of Learning Styles (ILS) questionnaire

4.1 Introduction

This chapter reports on the quantitative data generated by the ILS questionnaire (Felder and Solomon, 1994) Data was analysed in order to answer the first research questions, which is:

> **RQ1**: To what extent do trainee teachers on a secondary PGCE course self-report learning styles preferences and are these affected by their subject specialisms?

Analysis of the quantitative survey describes the distribution of the learning styles preferences of all secondary trainees (table 6). The subsequent analysis and discussion focuses on trainees in the subjects of English, mathematics and science, identifying what can be confidently viewed as 'typical' and 'atypical' learning styles preferences for trainees in these disciplines. These trainees represent the largest cohorts of trainees at the south coast university. Furthermore, earlier studies have indicated that there are differences in the learning styles preferences of trainee teachers in these particular subject specialisms (Veronica and Lawrence, 1997; Woodrow and Jarvis, 2001; Perry and Ball, 2004).

Table 6: The distribution of learning styles preferences by subject specialism

Subject	Active (A)	Reflective (R)	Sensing (S)	Intuitive (I)	Visual (V)	Verbal (W)	Sequential (Q)	Global (G)
All (316)	23%	16%	28%	31%	44%	14%	25%	17%
ENGLISH (116)	16%	21%	3%	53%	19%	29%	22%	21%
MATHS (61)	31%	11%	41%	15%	59%	3%	25%	16%
SCIENCE (93)	24%	14%	44%	16%	60%	5%	21%	17%
MFL (19)	11%	16%	42%	21%	42%	16%	32%	21%
BUSINESS (17)	41%	12%	29%	6%	56%	6%	41%	6%
GEOGRAPHY (10)	40%	0%	60%	0%	60%	0%	40%	0%

The quantitative analysis avoids complex statistical analysis as the sample size is relatively small and it is difficult to draw statistically significant conclusions that warrant secure generalizability. However, the gathering of quantitative data was a useful initial exploratory approach that informed the subsequent qualitative interviews.

4.2 Analysis and discussion of data from the ILS questionnaire.

During the academic years 2005-6 to 2008-9, the ILS questionnaire was administered to 316 secondary PGCE trainee teachers, prior to their first teaching placements. Of these, 32% were English trainees, 26% were scientists, 17% were mathematicians and 13% were training in modern foreign languages, business studies and geography. The age of respondents ranged from 20 to 51 with a mean age of 27.   67% of trainees were female and 33% were male. This is consistent with similar studies Perry and Ball, 2004) and reflects a current imbalance in the gender of trainee teachers. Data from the Teacher Development Agency (TDA, 2010) indicates that these proportions are broadly similar to those seen nationally. Whilst this study does not propose that the results are wholly generalizable it seems reasonable to suggest that there are likely to be strong similarities between the groups studied and other trainees on PGCE courses.

4.2.1 The frequency of learning styles preferences amongst PGCE secondary trainees

Felder and Spurlin (2005: 105) note that when using the ILS *'the researcher would do well to examine only students with moderate or strong preferences. The students with mild preferences would be expected to shift between categories'.*

The analysis, therefore, identifies only trainees with moderate or strong (scoring 5-7 or 9-11 on the ILS scale) learning styles preferences.

The data shows that most (92%) secondary trainees in the study indicate a preference for specific styles of learning (see figure 4). This is, perhaps, not surprising given the questionnaire's design and purpose. However, it is striking that the majority of all trainees (68%) report having two or more learning styles preferences. This figure is lowest in English (65%) but rises to nearly three quarters of trainees in science (73%). Only a small proportion of trainees (5%) reported learning styles preferences across all four dimensions. This figure is consistent across the core subjects. Trainees with no moderate or strong preferences are rare. In the core subjects this figure ranges from as little as 3% amongst mathematicians to 10% amongst scientists.

The data confirms the assertion that individuals report preferences for particular modes of learning (Austin, 2004; Felder, 2005; Petty, 1998; Pritchard, 2005). It is reasonable, therefore, to propose that these preferences might influence the approach trainees take to their own learning and/or the way in which they respond to the various modes of learning encountered during their university and school based training. These preferences might also influence the way trainees think about the needs of other learners (their pupils) and, therefore, affect the approaches they take in their teaching. This view has been previously suggested by a number of commentators (Evans 2004; Felder and Henriques, 1995; Nielsen 2008; Raven et al. 1993; Veronica and Lawrence, 1997; Whittington and Raven, 1995).

The frequency of learning styles preferences amongst secondary PGCE English, mathematics and science trainees
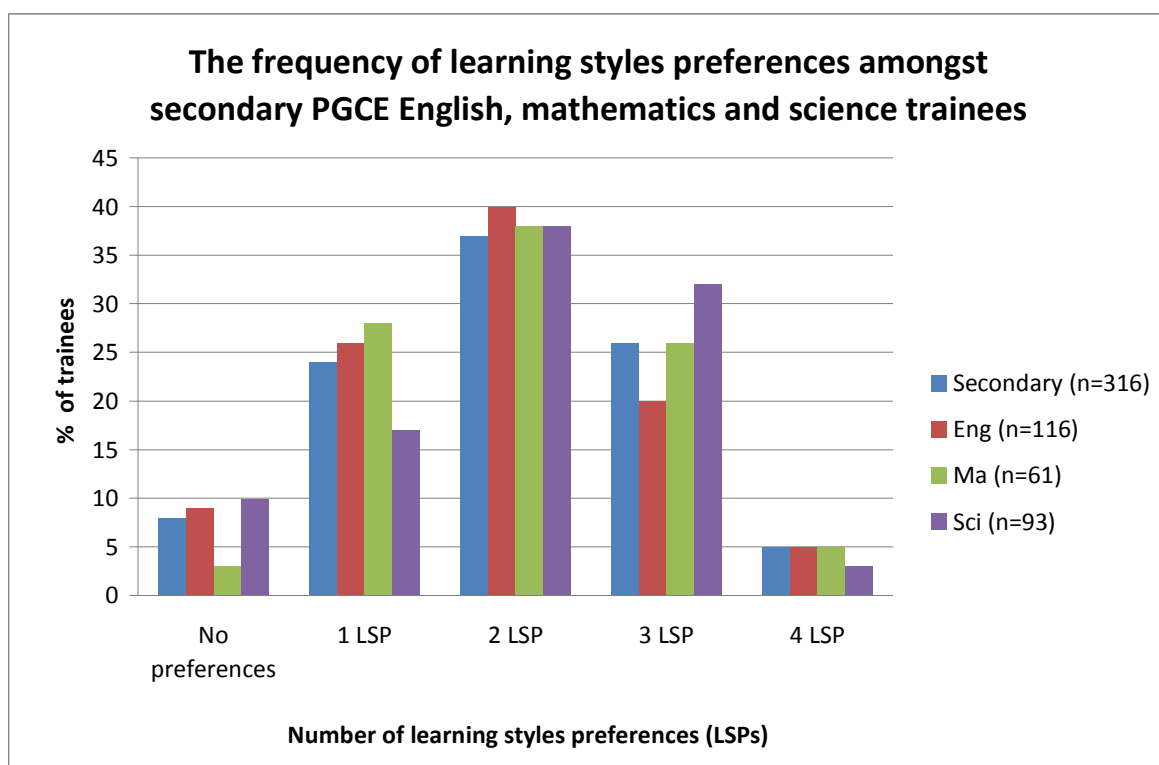
Figure 4: the frequency of learning styles preferences amongst secondary PGCE English, mathematics and science trainees

4.2.2 The 'typical' and 'atypical' learning styles preferences of PGCE trainees by secondary core subject specialism

Data from the ILS questionnaire was used to ascertain whether there were differences between the learning styles preferences of trainees from the three core secondary subject disciplines. The distribution of each style dimension is given in figure 5. Of the four dichotomies (described in Chapter 2), the *visual-verbal* and *sensing-intuitive* dimensions appear to differ most according to subject area. The data also indicates a tendency for English trainees to favour *reflective* approaches whilst mathematicians favour more *active* styles of learning. The data suggests

that of the four dichotomies the *sequential-global* dimension is least affected by subject specialism. These findings are discussed below. The data was also used to create a notional 'rank order' of learning styles preference for each core subject group (see table 7). This highlights those dimensions which are most and least favoured in each subject and also allows easy comparison between subjects and phases. Thus it is possible to suggest both 'typical' (more than a third of trainees) and 'atypical' (less than 10% of trainees) learning styles preferences for trainees in English, mathematics and science.

These results support and add to previous studies that suggest that the learning styles preferences of teachers/trainee teachers from different subject disciplines will differ. Veronica and Lawrence (1997: 164), for example, note that '*a highly significant interaction was found between the subject taught and the teacher's learning style preference'*. They found that chemistry and physics teachers shared the same dominant *reflector* [sensing] preference with a *theorist* [reflective] back up whilst biologists and mathematicians share a dominant theorist [reflective] preference with a back up of reflector [sensing]. English, history, PE, and music and art trainees, on the other hand, all share a dominant *activist* [active] preference. Woodrow and Jarvis (2001: 158) also argue that there are '*clear subject differences*', amongst mathematics and English PGCE trainees who lie at very different ends of what can be compared to the *sensing-intuitive* and *sequential-global* scales.
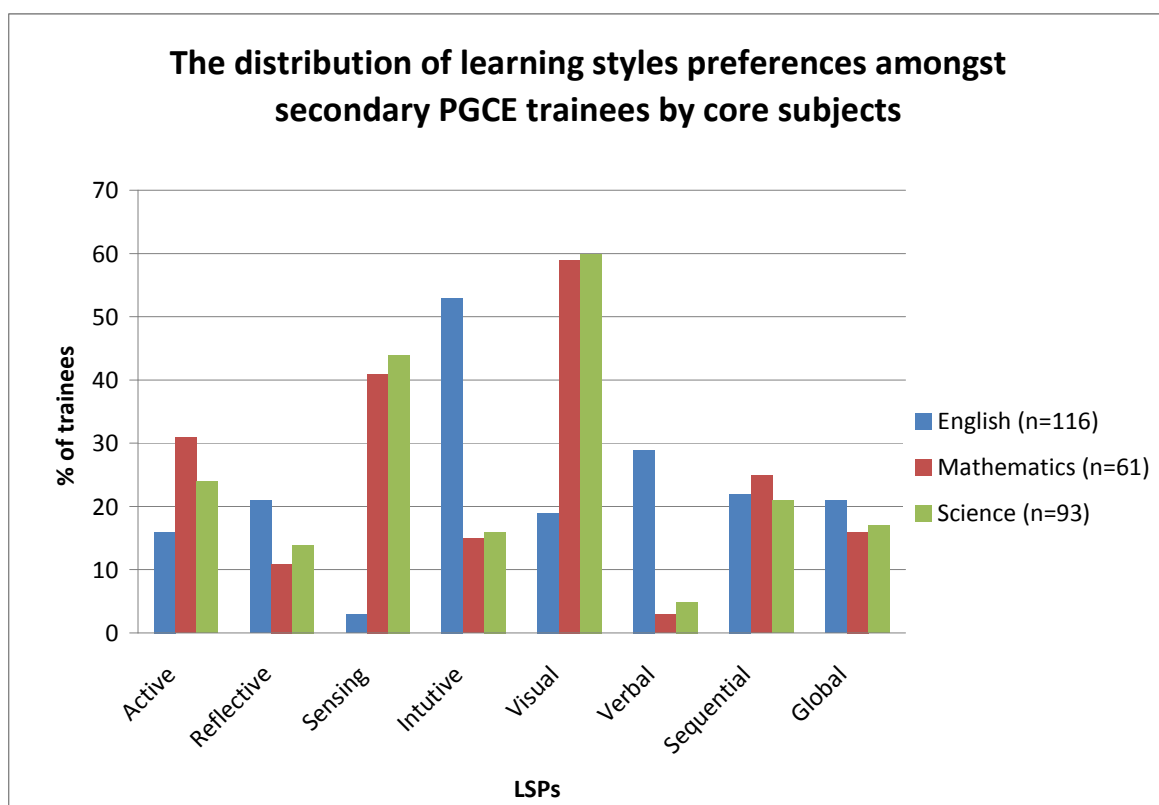
Figure 5: The distribution of learning styles preferences amongst secondary PGCE trainees by core subject

Table 7: *typical* and *atypical* learning styles preferences by secondary subject

	English (n=116)	%	Maths (n=61)	%	Science (n=93)	%
1	INT	53	VIS	59	VIS	60
2	VERB	29	SEN	41	SEN	44
3	SEQ	22	ACT	31	ACT	24
4	GLOB	21	SEQ	25	SEQ	21
5	REF	21	GLOB	16	GLOB	17
6	VIS	19	INT	15	INT	16
7	ACT	16	REF	11	REF	14
8	SEN	3	VERB	3	VERB	5

(a) The Visual-Verbal dimension

Of the eight ILS dimensions, the *visual* learning style is the most consistently reported learning styles preference amongst all trainees. In this study 45% expressed a preference for *visual* approaches. However, this figure was greater amongst scientists (60%) and mathematicians (59%). In both cases it was the most frequently reported preference (ranked 1) whereas amongst English trainees the figure was lower (19%) and the learning styles preference ranked sixth. This corresponds broadly with the findings of earlier research. Pallapu (2007) found that 68% of the trainee teachers in her study reported a preference for visual learning when using the ILS. Felder and Spurlin (2005) reviewed a number of other studies that had used the ILS. They found, for example, that of 521 engineers, 64% had a moderate or strong preference for *visual* approaches to learning. It is reasonable to suggest that engineers are likely to share similar preferences to mathematicians and scientists.

By contrast, relatively few trainees expressed a preference for the *verbal* dimension (14%). This is most evident in science and mathematics where only 5% and 3% respectively reported a preference for this style of learning. These figures are consistent with the 4% of the 521 engineers and the 6% of the 214 scientists noted in Felder and Spurlin's (2005) review of recent research using the ILS. Perhaps not surprisingly, given the subject's concern with written and oral communication, this dimension is more predominant amongst English trainees at 29%. Interestingly, this is exactly the same percentage as found in an earlier study of 235 humanities students (Lopes, 2002). It is reasonable, as has been suggested previously, that humanities students will share some similarities with those who study English (Jones, Reichard and Mokhtari, 2003; Perry and Ball, 2004; Veronica and Lawrence, 1997). Thus, whilst the *visual* dimension can be seen as a 'typical' learning styles preference for most trainees, this is not the case for English trainees. This may reflect the importance of figures, tables and other visual

representations of information in subjects such as mathematics and science when compared to the more text based subject such as English.

(b) The Sensing-Intuitive dimension

With the notable exception of English, a greater proportion of all trainees in this study report a preference for *sensing* rather than *intuitive* approaches. Indeed, for all secondary subject disciplines, with the exception of English, the percentage of trainees who favour *sensing* approaches is greater than the proportion that favours *intuitive* approaches by between 21% to 60%. In all cases there are at least twice as many *sensors* than *intuitors*. These findings are consistent with other studies of the learning styles preferences of trainee teachers, although direct comparisons are problematic due to researchers employing a range of learning styles instruments.

Raven et al. (1993) noted that 71% of trainee teachers in their study had a *sensing* preference. Veronica and Lawrence (1997) also found that serving teachers are mainly *reflectors* [sensors]. Peker (2005) noted that 25.8% of mathematics trainees favoured the *converging* [sensing] style compared to only 5.2% who favoured the *diverging* [intuitive] style. Peker and Mirasyedioylu (2008) found that 28.1% of pre-service primary trainees preferred *converging* approaches whilst very few favoured *diverging* approaches. However, other studies have produced contradictory results. Most recently, for example, Cavas (2010) found that only 17% of the 606 mathematics trainees in his study favoured the *converging* style compared to just over 40% who favoured the *diverging* style.

In this study, the proportion of science and mathematics trainees who report a moderate or strong preference for the *sensing* style (41% and 44%) is more than double those who prefer *intuitive* approaches (15% and 16%). In English, on the other hand, 53% favour *intuitive* approaches and only 3% prefer the *sensing*

dimension. A preference for *sensing* learning is an 'atypical' preference amongst English trainees. Furthermore, the *intuitive* dimension appears to be a 'typical' characteristic of English trainees and far less prevalent in other subjects. Whilst wary of oversimplification, this tendency may be influenced by the greater relevance of *facts* and *knowledge* in mathematics and science when compared to an emphasis on an individual's *opinions* and *feelings* in English.

The data are consistent with similar studies that have examined the learning styles preferences of students and trainee teachers across different subject disciplines. Felder and Spurlin (2005) note that 49% of the 219 scientists surveyed using the ILS shared a preference for *sensing* approaches whilst only 5% preferred *intuitive* approaches. Perry and Ball (2004) also found that the majority of trainee teachers in their 'science-mathematics' group had *sensing* preferences compared to the *intuitive* preferences of the 'English-humanities' group. They also found, using Kolb's model, that the number of trainees in the 'science-mathematics' group who favoured the *converging* [sensing] style (24.4%) was double that seen in the 'English-humanities' group (12.3%). Whilst not statistically significant, they found that 43.8% of 'English-humanities' trainees favoured the *diverging* [intuitive] style compared to only 19.8% of the 'science-mathematics group'.

(c) The Sequential-Global dimension

There are interesting similarities between the proportion of secondary trainees favouring *sequential* as opposed to *global* approaches and their associated rankings. Whilst in each case, the *sequential* dimension scores more highly, it always ranks next to its *global* counterpart. This suggests that in any group of trainees (irrespective of subject specialism) between a third and a half of the trainees will have a preference for one or other dimension. To a certain extent this differs from previous findings. Raven et al. (1993), for example, found that the majority of trainee teachers in their study were *field-independent* (sequential).

However, more recently Evans and Waring (2006) found that 45% of trainees were *analytics* (sequential) and 30% were *wholists* (global). Whilst these represent greater proportions than found in the research presented here, they indicate a similar spread of preferences and suggest that this dimension may be less strongly influenced by subject specialism. If so, this contrasts with the suggestion made by some commentators that *sequential* learners tend to favour maths and science whilst *global* learners favour English and the humanities (Reiff, 1992; Smith, 2002).

(d) The Active-Reflective dimension

It is noteworthy that the *reflective* dimension is favoured by relatively few trainees (14%) It ranks seventh in science (14%) and mathematics. This is slightly higher in English (21%) where *a reflective* preference ranks fifth. This contrasts with Woolhouse and Blaire's (2003) suggestion that teachers tend to favour theorist [reflective] approaches and Veronica and Lawrence's (1997) findings that secondary teachers tend to favour *theorist* [reflective] approaches as a 'back up' to their main *reflector* [sensing] sensing preference. It may be that *reflective* approaches, as measured by the ILS, are seen to run alongside more *verbal* approaches which are similarly unfavoured by most trainees, with the exception of English trainees. It may also be, as was suggested by Raven et al. (1993: 46) that there is a tension between the trainees' preferences as *'beginning teachers'* and those preferences that emerge when they *'become teachers'.*

4.2.4 The *typical* and *atypical* learning styles preferences of PGCE English trainees by cohort

Four groups of English trainees (n=116) responded to the ILS between 2005-6 and 2008-9. Whilst the exact proportion favouring each learning styles dimension differs between cohorts, a consistent pattern emerges for some of the learning styles, notably in relation to the *sensing-intuitive* and *visual-verbal* dichotomies (see figure 6). The data was also used to create a 'rank order' of learning styles preferences for each cohort (see table 8). This allows easy comparison between cohorts and highlights predominant learning styles preferences.

(a) The Sensing-Intuitive dimension

The data confirms that the *intuitive* dimension can be considered 'typical' amongst English trainees. Indeed, this dimension ranked above all others in 3 out of the 4 cohorts, with just over 60% expressing a preference in both 2006-7 and 2007-8 and 55% in 2008-9. Notably, no more than one trainee in any year group reported a preference for *sensing* approaches.

English trainees appear to be firmly at the opposite end of the *sensing-intuitive* continuum to their peers, particularly those studying mathematics and science. This supports the conclusions drawn by other commentators (Perry and Ball, 2004; Veronica and Lawrence, 1997; Woodrow and Jarvis, 2001). This might stem from the fact that the *core* subjects traditionally emphasise different approaches that suit some trainees more than others. Thus, learners who favour *intuitive* approaches may be attracted to subjects such as English whilst those who prefer *sensing* approaches might gravitate more readily towards mathematics and science. It might be possible, therefore, to discern a difference in terms of the qualitative *experiences* and *attitudes* towards their PGCE training of those trainees with 'typical' and 'atypical' preferences within a

particular subject. This possibility will be explored further (in relation to English trainees) in Chapter 5.
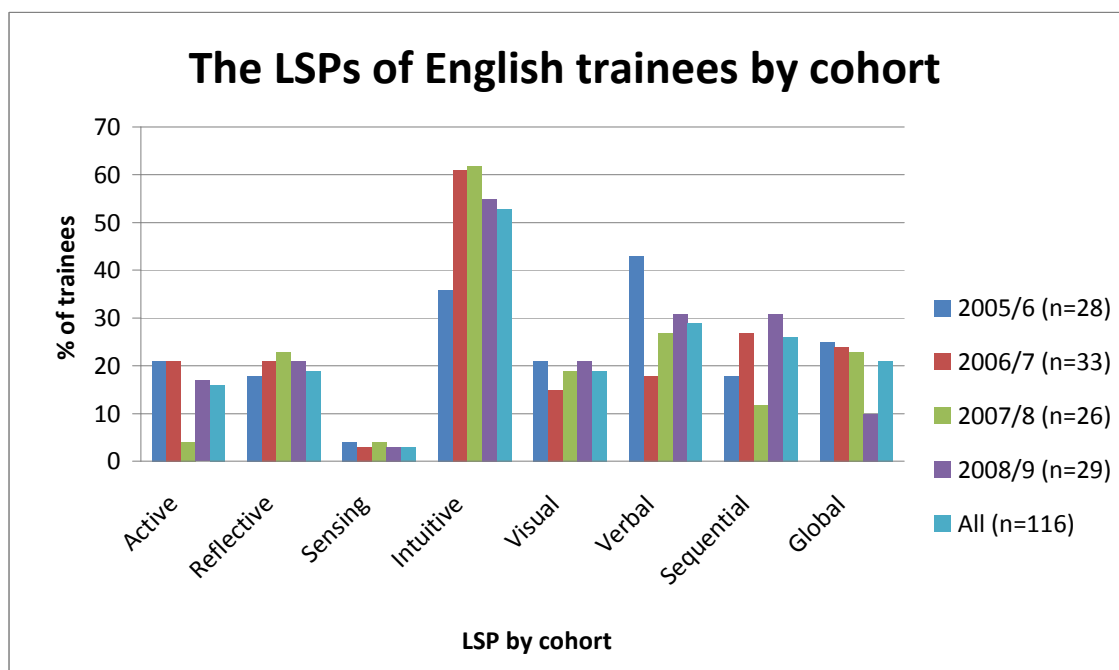
Figure 6: distribution of learning styles preferences for English trainees by cohort

Table 8: *typical* and *atypical* learning styles preferences of English trainees

	2005/6 n=28	%	2006/7 n=33	%	2007/8 n=26	%	2008/9 n=29	%
1	**VERB**	**43**	**INT**	**61**	**INT**	**62**	**INT**	**55**
2	INT	36	SEQ	27	VERB	27	SEQ	31
3	GLOB	25	GLOB	24	GLOB	23	VERB	31
4	ACT	21	ACT	21	REF	23	REF	21
5	VIS	21	REF	21	VIS	19	VIS	21
6	REF	18	VERB	18	SEQ	12	ACT	17
7	SEQ	18	VIS	15	ACT	4	GLOB	10
8	**SEN**	**4**	**SEN**	**3**	**SEN**	**4**	**SEN**	**3**

(b) The Visual-Verbal dimension

Perhaps not surprisingly, the *verbal* style dimension also appears to be a consistent (if not always 'typical') learning style characteristic amongst English trainees. Although the proportion reporting such a preference differs between cohorts (18%-43%) it ranks higher than its *visual* counterpart in all four years. Indeed, English is the only subject where the proportion favouring the *verbal* dimension is greater than those favouring the *visual* counterpart. It is also worth noting, however, that approximately 20% of English trainees expressed a preference for *visual approaches* in 3 out of the 4 year groups. It is possible that the variations in this dichotomy may be due, in part, to changing patterns of trainee recruitment. Most of the 2005-2006 cohorts were recruited from more 'traditional' or literature based English degrees whereas other intakes were more diverse. This was particularly the case with the 2006-07 group that contained a greater proportion of trainees recruited with drama, media and even philosophy degrees. It is possible that this factor led to the much lower proportion of trainees favouring *verbal* approaches in that year.

(c) The Active-Reflective dimension

The data indicate that there is no consistent pattern of preferences in terms of the *active-reflective* dichotomy. This is surprising given earlier studies. Veronica and Lawrence (1997), for example, suggest that English teachers favour *activist* [active] approaches rather than *theorist* [reflective] approaches. Perry and Ball (2004) also found that whilst 31.5% of their 'English-humanities' group of trainee teachers favoured Kolb's *accommodator* [active] style only 12.3% favoured the assimilator [reflective] style. By contrast, more English trainees in this study express a preference for *reflective* learning (21%) than for *active* approaches (16%), although this varies between year groups.

Whilst the data indicate a slight tendency to favour *reflective* approaches, in three out of the four year groups the individual figures are similar. It may be

that these variations are also influenced by recruitment and degree background, such as an interest in drama or performance as opposed to a more literature based degree. Whatever the reason, it appears as though around a third of any cohort of English trainees (27-42%) are likely to express a preference for either *active* or *reflective* approaches and this may have an impact on the way individual trainees experience and respond to the more theoretical and practical aspects of the course.

(d) The Sequential-Global dimension

The percentage of English trainees who express a preference for *sequential* or *global* approaches also varies between year groups. The overall proportions are similar at around two fifths of trainees favouring each dimension. However, the *sequential* dimension fluctuates between 18-31%. By comparison, the *global* dimension is more stable at 23-25% in three out of the four cohorts. Taken together, however they represent between just over a third (35%) and a half (51%) of the trainees in each group. This may also have an impact on the way individual trainees experience and respond to the more structured (and technical) approaches to learning to teach as opposed to the more philosophical or experiential approaches.

4.3 Summary of key findings from the quantitative data analysis

The data indicate that a majority of trainees in the study express two or more preferences for particular types of learning. It is also possible to identify 'typical' and 'atypical' learning styles preferences for trainees across different subject disciplines. Trainees in mathematics and science, for example, share a consistent preference for both *visual* and *sensing* approaches. To a lesser degree they also appear to favour *active* and *sequential* approaches. English trainees characteristically favour *intuitive* and *verbal* approaches. There also appears to be a slight tendency to favour *reflective* and *global* approaches,

although this varies between cohorts. Mathematicians and scientists consistently rate the *verbal* dimension as their least favoured approach. English trainees rarely identify *sensing* approaches as a preferred learning style. However, it is not possible to say with any certainty, on the basis of the survey data alone, how and from where these preferences derive or what impact they will have on the trainees' development as teachers. These possibilities will be explored in depth and in relation to the English trainees in the next chapter.

Chapter 5: Analysis and discussion of semi-structured interview transcripts

5.1 Introduction

This chapter includes the analysis and discussion of the English trainees' interviews. Data was collected and analysed qualitatively to address the second research question, which is:

> **RQ2**: To what extent and in what ways do the learning styles preferences of English trainees impact on their experience of/and attitudes towards learning to teach?

The discussion first explores the trainees' experiences prior to starting the PGCE, considering to what extent these influence their self-reported preferences. It then examines the trainees' experiences of and attitudes towards their university-based and school-based training. Finally it looks at the trainees' experiences of teaching itself, with brief reference to their sense of how they have developed across the PGCE year. The resulting analysis adds to research that has explored the predispositions, attitudes and experiences of trainee teachers undertaking PGCE programmes (Evans, 2004; Evans and Waring, 2006; Hobson, 2002; Jones, 2000; Raffo and Hall, 2006). It also provides a benchmark study of the impact of learning styles preferences on the learning and development of English teachers as they train to teach.

A simple form of notation is used throughout this section to indicate each trainee's learning styles preferences 'signature' (see table 9). Preferences are indicated in the order of the dimensions reported by the ILS questionnaire. Strong preferences are given in bold. For example, Carl's response to the ILS questionnaire indicates moderate preferences for *active* and *sequential* learning

and a strong preference for *intuitive* approaches. His signature, therefore, is A-**I**-Q.

Table 9: learning styles preference codes

Active	**A**	Reflective	**R**
Sensing	**S**	Intuitive	**I**
Visual	**V**	Verbal	**W**
Sequential	**Q**	Global	**G**

5.2 Learning styles preferences and the trainees' prior experiences of learning

In her study of PGCE secondary trainees, Evans (2004: 510) asks *'does cognitive style influence an individual's selection of a subject or is it the subject that attracts those with a particular cognitive style, thus reinforcing the established cycle?'* This section considers that question by examining the trainees' experience of learning prior to staring the PGCE. Drawing on the trainees' own reflections, it identifies those learning contexts that appear most successful and those that seem to present a barrier to their learning. There is little in the learning styles literature to indicate that this approach has been taken before. However, recent studies have drawn attention to the influence of prior educational experiences on an individual's attitudes and predispositions to particular types of learning and teaching (Cook-Sather, 2001; Nielsen, 2008; Peacock, 2001; Raffo and Hall, 2006).

For ease of organisation, this section is divided into four sections, each dealing with one of the ILS dichotomies. Whilst this is not ideal (there are difficulties inherent in attempting to untangle the impact of one learning styles dimension as opposed to another), it allows the discussion to focus on the most discernible impact of each learning styles dimension.

(a) The Active-Reflective dimension

According to the ILS, *active* learners prefer trying things out first and working in groups, whilst *reflective* learners prefer to think things through and work alone or with a familiar partner.

Carl (A-**I**-Q) and Louise (**A**-**V**) report preferences for *active* approaches. Both outline what they believe are their ideal conditions for learning in terms that corroborate their *active* preferences. They describe preferred learning contexts which offer highly experiential activities that are often multi-sensory and collaborative; they are busy, exciting places and productive relationships between learners and teachers are portrayed as energized and personal. As such, their preferences correspond closely with the characteristics of *active* learners described by the ILS (Felder and Spurlin, 2005) and by influential learning styles theorists (Honey and Mumford, 1992; Kolb, 1984).

Carl needs to become physically immersed in the learning process. For example, when describing his primary school experience, he recalls how:

> We had teachers coming into lessons and taking us out to do cooking and sewing and different craftwork things. We made this massive planetarium out of papier mache…There was so much going on and I suppose you're learning like reading, writing and listening but the main things I picked up are making and building (Carl: I; 1).

For Carl, learning is not about the transmission of knowledge but rather an *active* seeking out or exploration; it is participatory, liberating and democratic.

For Louise, who has a strong preference for *active* learning, passivity appears to present a significant barrier to successful learning. At secondary school, she found it hard to conform to teacher-centred ways of learning. She notes how such approaches resulted in her poor attendance, bad behaviour and being seen as '*a rebel*' by most teachers. She believes that it was only the intervention of an influential drama teacher and her own love of that subject that prevented her from being expelled:

> it was because it [drama] was active and it's not just sat behind a desk. There were no tables or chairs or anything like that. It worked well because it was more of an informal

environment...with drama there is more of an exploratory way...there's no clinical 'this is right and this is wrong' (Louise: I; 2).

For Louise, drama clearly met her need for an active learning environment. It also appears to have had an emotional benefit; it *'calmed'* her down– reducing her frustration and anger, offering freedom rather than the restrictions and control of more passive, teacher-centred approaches. This potential (if controversial) link between *active* or 'kinaesthetic' styles preferences and behavioural difficulties in largely passive classrooms has been widely debated in the literature (Franklin, 2006; Furnham and Medhurst, 1995; Sprenger, 2003; Stahl, 1999; Tileston, 2004; Van Zwanenberg et al., 2000). However, opinions are divided. Hoskin (2009) notes a frequent mismatch between the *active* and *visual* preferences of most secondary school learners and the methods employed by teachers that often leads to frustration or disengagement. Ginnis (2004: 39), somewhat polemically, states that kinaesthetic learners:

> Tend to give us most grief if their needs are not met; they easily become restless. These are the ones most at risk of underachievement and exclusion, largely because most UK secondary school teachers have not been trained to teach them effectively.

Franklin (2006: 84), however, criticises such labelling of learners that seeks to validate those students who are *'low achieving academically by describing them as kinaesthetic learners'*. She argues that *'non-stop teacher talk, without interchange, can be tedious for most'* and that kinaesthetic approaches *'should not be used to calm active pupils, or as a sop to the sporty ones, but positively as an aid to learning'*. However, it is clear from Louise's testimony that a lack of activity acted as a barrier to her own learning and led to behaviours that potentially threatened her education.

Greg (R-**I**), Izzie (**R**-I), John (**R**-I-**V**-Q) and Kathy (R-I-**W**) all report preferences for *reflective* approaches to learning. Izzie, John and Kathy describe early educational settings that are consistently more formal than those described by Carl and Louise; they are characterised by order, structure and the routines of learning rather than activity or exploration. As such they are consistent with the *reflective* characteristics described by the ILS (Felder and Solomon, 1993; Felder and Spurlin, 2005).

The *reflective* trainees' experiences of learning appear to focus on examining and manipulating information introspectively. Such learners are, it has been suggested, at an advantage because of the prevailing reflective approaches favoured in English schools (Smith, 2002; Woolhouse and Blaire, 2003). Izzie describes her initial English schooling as '*very Victorian - almost stiff*'. Kathy remembers '*loads of tests and loads of things to learn by heart*'. John remembers the silent working of his Catholic primary school, and recalls the nun who:

> was very strict in terms of – you do this – you get on with that – you're very quiet. I have the impression rather than a memory of being…not 'punished'….but 'corrected' shall we say for talking in class (John: I; 2).

Greg's (R-**I**) early memories differ in some respects from the other *reflective* learners in the study. Like Carl, he remembers his primary school experiences of learning in terms of activity and exploration rather than in terms of more formalised learning:

> I don't remember anything about sitting down and listening. It's all tasks we were given and told to go away and do. So whether it's going to look into books or going into the school ground to find tadpoles. We had a class where we had to find plants and leaves and things around the school ground. You had to go and collect samples and make impressions of things. (Greg: I; 1).

Nevertheless, the activities he describes are less dynamic or physical than those described by Carl. They enabled Greg to reflect on the relationship between things, to foster his sense of independence and a habit of working alone, both typical of a *reflective* learner. They involved research from books alongside opportunities to look, study, and think about rather than to do or to make. As such they appear to mirror both his *reflective* and *intuitive* preferences.

Unlike Louise, Izzie, John and Kathy appear to manage teacher-centred approaches effectively. It is not clear, however, whether they were successful in these settings because their preferences are naturally similar to their teachers or they have undergone some form of '*survival adaptation*' as suggested by Hoskin (2009: 4). Thus, Kathy regrets that her experience differed from that of her sisters who went to a different school and did '*projects*

across the curriculum'. Izzie, on the other hand, felt secure, confident and enjoyed a sense of her own superiority. She remembers with pleasure having been considered clever and in the top set for subjects. She also enjoyed working alone or with one or two close friends on reading comprehension activities that allowed them time to think and discuss.

For the trainees in the study there is a consistent association between their preferences along the *active-reflective* continuum and the educational experiences they describe. The trainees who favour *active* approaches indicate a distinct preference for participatory and hands on approaches to learning. Louise sees passive approaches as a significant barrier to successful learning. For the *reflective* learners, there is a consistent description of quiet, organized, formal environments where teacher imparted knowledge and students learnt things by heart and were tested on them. To a greater or lesser degree all of the trainees managed to enjoy or navigate these experiences successfully.

(b) The Sensing-Intuitive dimension

The *sensing* and *intuitive* dimensions characterise 'atypical' and 'typical' learning styles for English trainees. This is consistent with the findings of Jones et al. (2003) who notes that, unlike other subjects, English students tended to favour *diverging* [intuitive] approaches. In terms of the ILS, *sensing* learners are said to be concrete thinkers, often practical, and orientated towards facts and procedures, whereas *intuitive* learners are more abstract thinkers, often innovative, and oriented towards theories and underlying meanings (Felder and Spurlin, 2005).

Annie (S-**Q**) is the only trainee in the 2006-07 cohort with a preference for *sensing* approaches to learning. As such it is difficult to extrapolate on the basis of a single trainee's views. However, the attitudes she expresses differ from her *intuitive* peers in a number of areas. Annie's preference for *sensing* approaches is similar to many of the trainees in mathematics and science. It is telling,

therefore, that she notes her enjoyment of mathematics during the early stages of her education. She recalls how:

> When it came to maths I had a partner called Terry and we'd love to get a sum or a part of a sum that our teacher would give us, and we'd be racing to be the first partners to get it done and stick your hand so high in the air (Annie: I; 1-2).

For Annie, knowledge is about right answers and wrong answers and there is less emphasis on the kind of exploratory activities favoured by *intuitive* trainees. Her preferences are consistent with those described by Ginnis (2004: 43). He suggests that learners with *sensing-sequential* preferences relish *'playing a game with clear rules...completing a list of short tasks, following a prescribed route'.* Thus, Annie favours systematic approaches and takes pleasure and confidence in knowing that there are particular ways of solving problems which, once learnt, are reliable.

This runs counter to most *intuitive* English trainees who often note a dislike of mathematics and, on occasions, science.   Helen (**I**-Q), who shares Annie's *sequential* preferences but has a strong preference for *intuitive* learning, finds it difficult when working towards a definite answer, where routines are involved or where there is a perceived right or wrong way to do it. She states:

> I didn't like maths ever because I don't have that kind of brain. If it's logical right or wrong I can't do it. If there's working out to be done I won't be able to do it. If there's 'an' answer I won't be able to give it to you. Science was the same. I wasn't very good at science. I was good at the arts, dance and drama and English (Helen: I; 1).

Unlike Annie, Helen is looking for some kind of *intuitive* involvement with the learning. Helen notes, in particular, that *'Facts'* are harder to remember if there is no emotional context or personal interest, explaining that:

> There are things in history that went in one ear and out the other like the kings and the queens and the dates and things that I don't care about. But if it was something more interesting like *the American Dream*, that I could either relate to or put into some kind of context, then I'd learn and I'd sit at the front (Helen: I; 2).

Annie, on the other hand, enjoyed those history lessons that involved dates, details and tests, and where the learning was straightforward and

unchallenging. For her, this represents successful teaching. She recalls a favourite secondary school teacher who:

> had control of the class...We'd have a test and then be – it was a 'what date in history', it was all details but it didn't feel like a list, she made it really interesting. I liked it best because my favourite way of learning is 'just copying notes off the board'. I don't have to get involved mentally (Annie: I; 6).

For Annie and Helen it is apparent that their learning styles preferences have a discernible impact on their attitudes towards particular subjects and styles of teaching. They tend to favour those subjects where teaching styles match their own preferences. However history, for example, can be taught in both a *sensing* and *intuitive* way and different approaches appeal more or less to trainees with different style preferences. Whilst for Annie, as a *sensing* learner, copying and learning dates for tests equates to effective learning, for Helen the absence of *intuitive* involvement can act as a barrier to successful learning. There is much in the literature that considers the importance of matching teaching styles to learning styles. Several commentators have questioned the value of matching (Coffield et al., 2004, DEMOS, 2005; Franklin, 2006; Stahl, 1999) whilst others have highlighted its potential usefulness (Ginnis, 2004; Hoskin, 2009; Peacock, 2001; Reiff, 1992; Tripp and Moore, 2007).

Most of the trainees in the sample, notably those who favour *intuitive* approaches, say that they enjoyed studying in the sixth form and appreciated the additional freedoms that it offered. For Greg (R-**I**), a trainee with a strong preference for *intuitive* approaches, the move into sixth form meant a shift from a *'row based'* secondary education to a more autonomous, discussion-based and *intuitive* style of learning. His experiences are strikingly similar to Carl's (A-**I**-Q). He describes 'A' Level English Literature as relaxed and the learning seems to flow naturally from a facilitatory and trusting teacher who *'would sit amongst the group so you wouldn't feel as though there was a teacher there'.* Both Carl and Greg appear to thrive on the responsibility they were given and enjoyed taking ownership of their own learning. There was a strong focus on personal experience and the teacher worked with and alongside them. Thus, in Greg's lessons it:

> It was informal, it was relaxed and I realise that it took a certain maturity from the pupils to achieve that. But it was much more conducive to becoming interested in the subject matter. The teacher would treat us like adults, we could give personal experiences and opinions and it was good to take possession of the lesson in a way (Greg: I; 3).

These approaches are, it can be suggested, very familiar to many teachers and students of English. As such they are neither unusual nor striking in themselves. However, Greg and Carl's experiences confirm, to some extent, the findings of Lyndsey and Good (2007) who argue that *intuitive* learners do best in 'proximal' modes of learning where they are able to collaborate and work in groups.

Felder and Spurlin (2005) argue that *intuitive* learners value creativity and find repetition in learning difficult. This is born out strongly in the trainees' testimonies. Unlike Annie (S-*Q*) a *sensing* learner, the *intuitive* trainees often find repetition a barrier to successful learning. Debbie (I-**G**) jokingly expresses what might be a typical response when describing her inability to learn to play an instrument:

> I think for me the idea of repetition, trying to master something by simply sitting down and doing the same repetitive movements has never been something I've been able to… the most creative thing about piano when I was younger was coming up with excuses about why I hadn't done my practice (Debbie: I; 3).

John (**R**-I-**V**-Q), Izzie (R-**I**) and Greg (R-**I**) all find that it is 'possible' to learn through repetition and this may in part be due to their *reflective* preferences. However, the learning is short-lived or of limited value. Thus, Greg feels demotivated when working at a call centre where he was taught *'a very prescriptive formal way for approaching things'*. He notes that it was *'easy to see how it's done [but] to do it with enthusiasm and personal involvement is a completely different issue.'* For Izzie, learning to programme computers quickly becomes useless knowledge and *'As soon as I had finished it was information that my brain said "no, I don't need that" and threw it away'*. For John, the routines of catering college were also dull and uninspiring: *'I felt I was on a treadmill and I wasn't learning anything new and that things were being held back from me'*.

The trainees' choice of experiences from their prior educational experience and their comments evaluations are highly consistent with their learning styles preferences. Annie, a *sensing* learner, enjoys and values organised, structured, factual learning through recognised and familiar methods and procedures, often involving repetition. She also feels that effective teachers give clear guidance and keep control. The *intuitive* trainees, on the other hand, enjoy and value exploration, finding out, creativity and working with others. For them effective teaching is collaborative, facilitatory and offers the learner responsibility and ownership. Repetition and the learning of facts or knowledge where no context or personal relevance has been given can act as a barrier to successful learning.

(c) The Visual-Verbal dimension

Unlike trainees in other disciplines, English trainees are more likely to favour *verbal* approaches to learning. Felder and Spurlin (2005) suggest that *visual* learners prefer visual representations of presented material, such as pictures, diagrams and flow charts whilst *verbal* learners prefer written and spoken explanations. These particular ILS dimensions correspond broadly with the sensory preferences described in the VAK model discussed in Chapter 2. Ginnis (2004: 39) suggests that whilst learners use different combinations of senses in different situations, they will have a dominant and preferred sense. He states that '*the opportunity to use this preference for learning has a significant effect on their level of achievement and feelings of competence'*. Other commentators have strongly rejected the notions of a dominant sense (Franklin, 2006; Stahl, 1999). Interestingly, Smith (2002) argues that in many schools and colleges there is a bias in favour of *verbal* over *visual* approaches.

Louise (**A**-**V**) and John (**R**-I-**V**-Q) both report a strong preference for *visual* approaches to learning. Their earliest memories of learning are expressed in terms which include both implicit and explicit references to *seeing*. Louise's memories appear both spatially expressed and tactile and are influenced by her additional strong preference for *active* learning. John's recollections are more

reflective, as if he is using the visual memory to recall the process of learning; they appear influenced by his strong *reflective* preferences.

Louise refers to colour, size, shapes and the physical sensations of touching and moving that she associates with her earliest experience of learning. Thus she recalls:

> Milk in the little cartons with the blue straws… a reading corner which was full of cushions and cuddly toys and really big books. They were like giant books – they were huge with big cardboard pages with the alphabet and numbers on. We did a lot of work there on handwriting with…there were blue fountain pens…there was a sentence or something and you had to copy it down getting the letter shapes like your 'As' and your 'Bs' (Louise: I; 1).

At home, John remembers learning to tell his left hand from his right hand *'through visuals'* and whilst he has only fragmentary memories of primary school he *'can visualise the setting'* with confidence. At secondary school, he particularly enjoyed Geography where *'there was a chance to colour things in, maps and what have you'*. Interestingly, he enjoyed drama not because it was active but because it helped him to *'visualise myself as a different character in those plays'* and gave him *'an excuse to be more confident'*.

For Louise, her *visual* preference expresses itself in terms of seeing the learning represented visually, whereas for John it stimulates creativity and offers a way of helping him to think or imagine. For Louise it is a matter of external (active) visualization whilst for John it is internalized (reflectively). Thus, whilst both talk about their learning in terms that corroborate their visual preferences they differ in relation to their other preferences. This is important, in that it underpins the value of avoiding labelling on the basis of a single preference, a criticism that is often levelled at learning styles proponents (Coffield et al., 2004; Demos, 2004; Franklin, 2006).

Of the three trainees who express a preference for visual modes of learning, it is Louise whose preferences appear most influential. Whilst she finds *visual* approaches to learning helpful, auditory or *verbal* approaches frequently act as a barrier to her successful learning. Thus, at secondary school the least

successful lessons were those that Louise defines as *'chalk and talk'*, where teachers employed highly verbal approaches. She describes the incessant teacher talk in mathematics as *'appalling'*, whilst in history:

> We never got any handouts or never used any clips or anything. It was chalk and talk. I used to just work from the book, not pay any attention to the teacher and just literally, I'd draw diagrams and highlight stuff because I thought that was the only way I could learn history. I can't learn if you're just talking at me because it's boring (Louise: I; 2).

For Louise, such auditory/verbal approaches to learning proved problematic from an early age. Indeed, as Hoskin (2009) argues, they acted as a barrier to successful learning because the dominant style of teaching was adversely mismatched to her *visual* and *active* preferences. It is only when Louise goes to college that she begins to manage '*the paperwork'* more successfully, adopting specific visual organisation strategies, noted as helpful for *visual* learners by Felder and Solomon (1993), to support her own learning. Thus she explains:

> It sounds odd but I'm addicted to colours and files and coloured file dividers. I love them and post-it notes and things like that – they really helped, especially when I had to learn lines and stuff, and for exams and sort of revision – highlighting things in different colours helped (Louise: I; 3).

Taken together, Louise's experiences are consistent with Ginnis's (2004: 40) somewhat contentious assertion that for learners with a particularly strong sensory dominance *'unless their learning style needs are sufficiently met, these students become quickly frustrated, bored, alienated and mischievous.'*

For Kathy (R-I-**W**), who strongly favours *verbal* modes of learning, auditory approaches are highly successful in creating the conditions for effective learning. In particular, sixth form teaching was ideally suited to her particular combination of *verbal-intuitive-reflective* preferences. In stark opposition to Louise (**A**-**V**), Kathy explains that:

> talking about things and hearing things is really how I learn things. I think from the teachers' point of view they tried to involve the class a lot more rather than standing at the front and teaching at them which I never had a problem with because I think I

learn quite well from hearing things. Being much more orally based really helped me. (Kathy: I; 2).

Kathy recognises that such approaches do not suit everyone but, unlike Louise, she finds listening hugely beneficial. Indeed, Kathy is the only trainee to explicitly value lectures equally to seminars. Reflecting on her time at university, she notes:

> The whole seminar format and lecture style really suits me. I made notes and stuff so that I'd have things to revise from. If I missed a lecture and copied up someone else's notes that was nowhere near as helpful. I remember things that are said really well and that style of teaching really suits me (Kathy: I; 2).

Frank (**W**-Q) also reports a strong preference for *verbal* modes of learning. He values learning through reading, talk and the *hearing* of talk. Like Kathy, he finds his sixth form teaching particularly conducive to successful learning. In his favourite lessons the class:

> read books and we were able to talk about it – that was a good way to learn for me because in order to be able to talk about it in the classroom you had to read something. Yes, it's a good way of learning because I like to listen (Frank: I; 2).

However, as a learner with *sequential* preferences, he also appears to enjoy structured and methodical approach to lessons. This appears more passive than the *intuitive* involvement enjoyed by Kathy. One influential teacher structured the learning in a manner well-suited to his *verbal-sequential* preferences by:

> The way she read out loud – it wasn't just someone talking, to me, I could really take it in and I could make notes in my book and still be listening. I don't know how it worked for other people; I guess it's just how I learn. She would always stop at appropriate times and discuss what she'd just said, even if we were following in the books, it seemed like she had stopped at the most appropriate time as well (Frank: I; 4).

For Frank, this successful learning progresses steadily, through a number of stages. The reading brings the learning to life, and the teacher-led discussion focuses the learners' attention on noteworthy points. Taken together, Kathy and Frank's testimonies corroborate strongly the characteristics of verbal learners described in the literature (Ginnis, 2004; Felder and Solomon, 1993).

The learning styles preferences of both visual and verbal learners, therefore, can be seen in the experiences of successful learning they describe. For Louise, the mismatch between her *active-visual* learning styles preferences and the *reflective-verbal* teaching styles she encounters acts as a barrier to her successful learning. Both of the *verbal* trainees place a high value on reading, talk, listening to others and making notes as part of their successful learning. Both trainees explicitly and consciously refer to such approaches as being well-suited to their learning needs. For Frank, his additional *sequential* preference appears to lead him to favour teachers who structure learning carefully and guide him to the most noteworthy texts or textual references.

(d) The Sequential-Global dimension

Felder and Spurlin (2005) suggest that *sequential* learners employ linear thinking processes and prefer to learn in small incremental steps. They note that *global* learners, on the other hand, employ holistic thinking processes and tend to learn in large leaps. The *sequential-global* dimension of the ILS has, as was discussed in Chapter 2, similarities with the concepts of *field-independence* and *field-dependence*. The literature suggests that in general terms *field-independent* or *sequential* learners are likely to be more successful or find fewer challenges than their *field-dependent* or *global* counterparts because much teaching favours *sequential* approaches (Felder and Solomon, 1993; Roberts, 2006; Smith, 2002).

For trainees who favour *sequential* approaches, a lack of formal structure can act as a barrier to successful learning. Helen (**I**-Q), for example, welcomed the additional social freedoms of the sixth form college but found that the lack of *'strict'* control in lessons led to her learning going *'downhill'*. She notes that:

> I started to fail at college because we were set free. I went to a really strict secondary school; and being somewhere where I was set free and where they didn't notice if you didn't turn up … I'd lose interest and fadeout (Helen: I; 2).

John (**R**-I-**V**-Q) recalls feeling failed by a modern foreign languages teacher who rarely imposed any order on her lessons, complaining that:

> She couldn't actually be bothered to draw together a lesson, plan it – and execute it. It was very sloppy and it was a case of oh well, we'll just chat. I felt despondent by the end of it because I wasn't getting the hard work from the teacher as I was giving in (John: I 3-4).

Helen and John both express a need for structured and well ordered approaches to learning. Consistent with the findings of Roberts (2006), they struggle when the learning becomes too open-ended.

In the study group, trainees who prefer *sequential* learning also consistently favour teachers who are organised, control the learning and are focused on their subject. This is consistent with the hypothesis forwarded by Raven et al. (1993: 41) who suggested that *field-independent* [sequential] trainees would favour *'subject-centred'* approaches over the *field-dependent* [global] need to create '*a warm and personal learning environment'*. Thus Annie (S-**Q**), who has a strong preference for *sequential* learning, wants lessons *'to be neat and tidy'*. She finds it difficult to relate to other learners who find it difficult to do what she sees as uncomplicated, be it the *'basic coordination'* of sport or when studying for GCSE English:

> I couldn't understand why other kids weren't scraping a C at that level. I've always been the type of person that's respected my teachers - perhaps that's been the trouble. And it started to get on my nerves when other people would wind up the teachers (Annie: I; 3).

Frank (**W**-Q), concludes that at playschool they were '*learning how to respect authority, different types of authority, not like our parents.*' Similarly, John (**R**-I-**V-**Q) remembers a favourite teacher at primary school who was '*strict but fair'*. He recalls being put in detention and:

> I had to come into detention and write a story and because I was that way inclined I loved that, but when I gave it to him he ripped it without reading it. That really got to me because I'd enjoyed that, and he could see that I'd enjoyed it, but obviously it was a punishment– so I thought, looking back at it, that he had his eye on the ball (John: I; 5).

Trainees who favour *sequential* approaches also prefer learning that is structured in smaller steps or stages. Ginnis (2004: 42) suggests *sequential* learners are '*linear, structured, step-by-step thinkers who will pursue one idea or line of thought at a time*'. This is particularly true for Annie (S-**Q**), a trainee with a strong *sequential* preference. She remembers successfully learning how to deconstruct film and media texts, being '*taught in stages…to see how one tiny thing can have an effect as a whole film*'. She takes confidence from this structured and logical approach which, tellingly, she hopes to apply in her own teaching. In particular, she sees this approach as leading her towards more concrete and substantial learning, a means of finding *the answer* or rationale embedded in a text. She values '*the fact that everything in a frame of a film - that everything that is done is done for a reason*'. As such it is also consistent with her preference for *sensing* approaches.

Like Annie, Frank (**W**-Q) also gains confidence by applying a familiar method when approaching unfamiliar learning. At primary school, Frank recalls learning successfully through a structured topic based approach. He notes that this '*was a really good way of concentrating the learning*' in an organised, logical and sequential fashion. Importantly, this approach provided Frank with time to see the connections between different aspects of the learning, uncluttered by competing bits of knowledge. He argues that this was successful because:

> We weren't doing something one day and something completely different the next – it was all through the week – that's the way I learn best, if it's concentrated, rather than it being all over the place (Frank: I; 1).

His testimony, as a *sequential* learner, is consistent with the characteristics described by Felder and Solomon (1993: 9). For example, they suggest that sequential learners are likely to struggle when a teacher '*jumps around from topic to topic or skips steps*'.

Raven et al. (1993) argue that *field-dependent* learners perceive the world in a global fashion; they are socially oriented and learn best when material has a social content. Ginnis (2004: 42) suggest that *global* learners can appear '*chaotic*', making '*intuitive connections and creative leaps*' that are beyond their

sequential counterparts whilst having *'no idea how they got there'*. Interestingly the two trainees in the study with strong *global* preferences have less conventional educational backgrounds than their peers. Both value learning about the wider world and gaining an expansive, global perspective that teaches them something about real life.

Debbie (I-**G**) considers learning as being '*something that's happened really unconsciously'*. She spent time at school in Switzerland but recalls that *'it was quite difficult to reintegrate'* when she returned. Euan (V-**G**) spent little time in school between the ages of 10-15 owing to a serious illness, and remembers *'very little going on in terms of learning and after that there was a lot of catching up.'* He subsequently left school at 16 and, after a succession of manual jobs, went to live and work in France. He notes that by the time he'd returned *'I'd learnt quite a lot about people and myself. Far more than I'd learnt in school'*.

Above other subjects, modern foreign languages are something that Debbie has learned successfully. For her, languages provide a doorway into a *'completely different culture that encompasses music and literature history. It's a tool for you to communicate with other people - it's so exciting and it opens all kinds of pathways to others'*. Languages represent, therefore, an ideal learning style which is rooted in a cultural dimension, fosters wider communication and opens up endless possibilities. Debbie also values authenticity in learning. Thus the fact that her teachers were native speakers made her experience *'more believable'* and more *'authentic'*. Importantly, these teachers avoided the repetitive and/or *sequential* approaches. On the contrary, for Debbie it was precisely:

> the teaching styles that go with language learning that really appealed, I suppose it being really interactive - providing you with the tools to go and attack a piece of literature or a language as opposed to dictating reams of information that you then had to memorise (Debbie: I; 2).

In this respect, learning is not about the methodical acquisition of knowledge or subject content but rather the gaining of tools that enable you to further your

understanding of the world about you. As such, it closely matches her *global* preferences.

Euan sees himself as an outsider. He is frank when describing his actions and his attitudes towards teachers, education and learning. In stark contrast to the *sequential* trainees, who expressed a consistent respect for authority and order, he describes himself as *'a hugely critical person'.* His attitudes often act as a barrier to learning. It is as though his strong *global* preferences result in an antipathy for any form of structured *sequential* learning or organisations that are bound by rules or procedures. For example, Euan describes how at university he would:

> Stop the lecture after 15 minutes and argue the next 45 minutes over the point that had been made - which is fairly selfish, looking back. I tried to act differently, but I felt a bit vindictive. It was like pupils do in schools when they can smell a weakness. I just didn't expect those weaknesses to be so evident at university (Euan: I; 3).

As a mature trainee, Euan gained considerable teaching experience in the FE sector. The experiences he describes illustrate tensions that appear to arise out of his strong *global* preferences. As an unqualified teacher he felt that he was more successful than his colleagues. However, he accepted, somewhat reluctantly, that he needed the official qualifications that went with it:

> I had to do the City and Guilds nonsense on the side and actually struggled with that. I'm prone to making comments perhaps when they're not advisable to be made and I will open my mouth when perhaps I should shut it...The following year, did the PGCE for post-16 but I was asked to leave the course after five weeks (Euan: I; 4).

At each stage in his education and career Euan appears to sabotage his own prospects. Whilst he shares Debbie's preference for *authenticity* in learning and stresses the importance of his own real world experience, his attitude is much more polemical. He questions the structured and formalised approaches to education and rejects the official procedures that he sees as bureaucratic *'nonsense'.* Given this history (and apparent inflexibility) it is perhaps not surprising that Euan withdrew from the PGCE programme following his first placement.

Both sets of trainees describe experiences that are consistent with their self reported learning styles preferences and match the characteristics described by the ILS. The *sequential* trainees share a preference for structured, well-planned approaches to lessons. They see teachers as figures of authority with a clear role in guiding them through the learning and passing on tried and tested methods that they can use to tackle problems that can be solved. The absence of a structured approach, poorly planned lessons or a lack of guidance, can act as a barrier for *sequential* learners. For the *global* trainees there is a desire to see the bigger picture and wider relevance of learning alongside a valuing of truth and authenticity. For Debbie, excellent learning is not about the acquisition of grades or qualifications but as a means of providing pathways that connect the learner to different cultures and art forms as well as providing essential skills (rather than methods) that can be applied in social (rather than problem solving) situations. For Euan, his strong *global* preference expresses itself in a consistent rejection of the *sequential* and bureaucratic approaches to both learning and career development. For both trainees there is an apparent lack of consciousness about learning that is consistent with the literature (Ginnis, 2004).

5.3 Learning styles preferences and the trainees' experiences of learning to teach

This section examines those experiences that relate most closely to the way in which the trainees learn to teach during their university and school based training. It considers the impact that a trainees' blend of learning styles preferences has on their development as teachers and their attitudes towards the different styles of teaching and learning they encounter. The university-based training focuses on the professional lectures and seminars, and the subject specific sessions. The school-based training focuses on learning from lesson observations and subject mentors.

The relationship between and value of HEI based and school based teacher training has come under recent scrutiny as a result of the coalition government's white paper, 'The importance of teaching' (DfE, 2010:19). This document argues that:

> Too little teacher training takes place on the job, and too much professional development involves compliance with bureaucratic initiatives rather than working with other teachers to develop effective practice.

Such a view calls into question the role of HEIs as providers of initial teacher training as well as the value of the PGCE route into teaching. Interestingly, this view contrasts with that presented in Ofsted's most recent annual report, (2010). It found that the quality of teacher training was consistently better when delivered by HEI-led partnerships than by school-centred initial teacher training partnerships and employment-based routes.

In this respect it appears that Jones (2001: 70) is right when suggesting that *'amongst educationalists in England there is still contention about whether to associate teacher training with the academic or vocational worlds'*.   This continuing difference of opinion underlines the importance of examining the quality of a trainees' development within and across these two contexts in order to highlight whether particular approaches and/or settings suit trainees with different learning styles preferences.

5.3.1 The trainees' experiences of their university-based training

This section examines the English trainees' experience of their university-based PGCE training. This is the period when trainees spend most time learning at this south coast university. During the autumn term, trainees spend the first full three weeks in university. They then undertake four weeks of joint practice (two days in university and three in schools). Trainees begin their first school placement during the second half of the term and return to the university for occasional training and development days.

(a) The professional studies lectures

Trainees at this south coast university attend a professional studies lecture each morning during their first three weeks and then one lecture during the two days at university whilst on 'joint placement'. The majority of trainees cite lectures as their least preferred means of learning. This is, perhaps, not surprising given the fact that studies consistently show that lectures rank poorly when compared to other forms of learning (Petty, 1998). The trainees' views are consistent with the fact that only two individuals in the interview group report a preference for *verbal* approaches to learning, a learning style best suited to the traditional lecture (Ginnis, 2004; Hoskin, 2009).

Kathy (R-I-**W**), who strongly favours *verbal* approaches, is the only trainee who speaks positively about the value of lectures and note-taking. Greg (R-**I**), on the other hand, states that nearly all of the lectures *'could have been replaced by twenty minutes of reading'.* Helen (**I**-Q) feels that she writes *'millions of notes'* but never looks at them again. For her, there are *'too many lectures. I'm bored with them now and I'm not learning anything'.* Carl (A-**I**-Q) claims, somewhat unconvincingly, that he gets *'a lot out of lectures',* describing them as the *'basis for the day'* and providing *'all of the information'* that is needed. However, like Helen, he concludes:

> I still find lectures difficult today. I sit there and listen and you're writing notes and it's just a case of putting them away and you don't read them again and you can't think what was said in the lecture (Carl: I; 4).

For trainees with preferences for *intuitive* and/or *active* approaches to learning there appears to be a disconnect with the lecture approach. For Greg, it fails to meet his needs for internal reflection whilst for Helen and Carl there is a lack of personal and active involvement that leads to their disengagement. Interestingly, both Carl and Helen go through the motions, performing the expected act of note taking, but finding these ultimately of little value. It may be that their shared *sequential* preferences lead them to consider lectures as 'real' learning whilst frustrated that the process is not more helpful. This contrasts with Reiff's (1992) suggestion that *intuitive-sequential* learners

appreciate lectures. However, Ginnis (2004: 43) also notes that *intuitive-sequential* learners *'like to be guided to see the connection between ideas'* and it may be that that this aspect is less well facilitated by the lecture approach.

Annie (S-**Q**) favours *sensing* and *sequential* approaches to learning. Interestingly, she views lectures somewhat more neutrally. For her they serve the purpose of information transmission, a way of acquiring facts and knowledge that can be imparted from the lecturer. Unlike Carl and Helen who favour *intuitive-sequential* approaches, she explicitly prefers the fact that lectures can be (and *should be*) passive encounters with learning. For her, they are contexts in which *'you expect to be taught. You don't expect to have to put any of your input in'.* Indeed, she gets frustrated on those occasions when lecturers use such strategies that seek to engage the audience more practically.

For Euan (V-**G**) a trainee with strong *global* preferences, lectures epitomise what he sees to be the gap between theory and actual practice, between the detailed and formulaic view of what should happen and his big picture view of what occurs in reality. Felder and Solomon (1993: 10) suggest that *global* learners *'function differently'* from their peers and can struggle with learning if they can't grasp the big picture. Importantly, Reiff (1992: 15-16) stresses that such *field-dependent* or *global* learners are just as capable as their peers but are cognitively *'less flexible'* and *'prefer freedom from rules and guidelines'.* Both of these descriptions appear true for Euan. He questions what he is being told, contrasting it with what he is seeing happening around him (on school placements) or has experienced (whilst teaching in an FE college). He describes, for example, one of the professional studies lectures:

> We were doing this topic of differentiation and of course there's no differentiation on the course which is lovely really. There are about 60 people in the room and Steve is going on about differentiating *this* and *that* and you're thinking" Well where is it?" We're talking about all this theory all of the time but we see very little of it in practice (Euan: I: 6-7).

Euan finds it difficult to accept the need to adopt particular *sequential* approaches to learning and teaching. Moreover, he is not prepared to play by the rules or follow the accepted structures but questions them in search of a

bigger picture reality. Here his *global* preferences appear to be a barrier to learning the structured craft of the classroom.

Debbie (I-**G**) also reports strong preferences for *global* learning, combined with moderate *intuitive* preferences. Ginnis (2004:43) suggests such learners need *'to explore ideas, to go off at tangents and make personal connections'*. This appears true for Debbie who is interested in finding the link between the theory and policy encountered in lectures and the everyday practice she experiences. Unlike Euan she doesn't reject the theory. Instead, she tries to weigh up and grasp the *global* educational picture and to place herself within it. Thus, she appreciates finding out about *'what's happened to education over the past decade with Ofsted and all the 'Strategies'. It has been helpful being made aware of how integral a part of the whole system it is'*. As some commentators have suggested, *global* learners like Debbie find it useful to have the big picture overview foregrounded by lectures (Felder and Solomon, 1993; Reiff, 1992).

(b) The professional studies seminars

Following the professional studies lectures, trainees meet in cross-subject seminar groups to discuss further the ideas raised in the lectures. There are similarities between the professional studies seminar approach and the group work and discussion-based elements of the subject sessions. Both offer opportunities to discuss the learning, to interact with peers, and to influence the direction the learning takes. As such they provide ideal opportunities for trainees with *intuitive* or *active* learning preferences.

Carl (A-**I**-Q), who reports moderate *active* and strong *intuitive* preferences, the cross-curricular seminars as *'really helpful'*. He notes how there is *'lots of debating going on in seminars and getting to listen to other people and their worries, and you learn a lot from other people, different schools and stuff'* . For Carl, their value lies in the approach itself and in the active and highly

interpersonal dimension of the learning. Carl benefits from finding out about other trainees' concerns and sharing their experiences of training in different schools. As such, his response is consistent with the various descriptions of *active* and *intuitive* learners and trainees reported in the literature (Felder and Spurlin, 2005; Ginnis, 2004; Kolb, 1984; Perry and Ball, 2004; Raven et al., 1993; Veronica and Lawrence, 1997).

John (**R**-I-**V**-Q), reports a blend of four preferences. Unlike Carl, he feels that the cross-curricular seminars have been *'a waste of time'.* He states that there has been a lack of focus and only limited tangible outcomes. His experience is consistent with the literature which suggests that *reflective-sequential* learners are task-oriented, employ logic, like to follow step-by-step pathways and take pride in carrying out instructions thoroughly (Felder and Solomon, 1993; Ginnis, 2004; Reiff, 1992). For John, the seminars are not structured enough. He argues that the seminars ought to be more *'focused on texts, focused on the questions, on possibly bringing up more practical ideas 'cause I'm quite task orientated'.* Moreover, the cross-curricular seminars do not sufficiently match or build on the lecture programme; they don't *'take that knowledge and run with it'.*

Kathy (R-I-**W**) is a trainee who reports a preference for *reflective* learning. She feels frustrated because *'time pressures'* have meant that some of the seminar discussions have:

> Felt rushed and I don't think I've got as much out of them as I could. It's also a bit bombarded with information and I also feel I could have talked about things for ages and we haven't had the opportunity to (Kathy: I; 5).

Felder and Solomon (1993: 8) suggest that learners with *reflective* preferences can be at a disadvantage in a learning situation *'that allows little or no time for thinking about new information'.* This is true for both Kathy and Izzie (R-**I**), a trainee who shares Kathy's *reflective* and *intuitive* preferences. The pace of the professional studies programme means that opportunities to think and reflect can be limited and superficial. Izzie feels a similar level of frustration and

provides a poignant example that underpins the importance of both reflection and in-depth collaborative discussion to those trainees with *reflective* and *intuitive* preferences. She explains:

> One of the pieces we had to read the other day about whether teaching is art or science. I loved that piece of work because it was just right up my street because it was very philosophical and I loved it and we spent two minutes discussing it and I thought no, I want to talk about this one, I wanted to have an argument with someone about it (Izzie: I; 4).

Whilst the professional seminars offer *intuitive* trainees the opportunities to engage with a range of peers from other subjects and to tackle some wider philosophical issues, the time pressures of the course often means that their coverage is cursory. For some trainees, particularly those with *sequential* preferences, this leads to frustration because they cannot see a logical process that leads to a concrete outcome. For those with *reflective* and or *verbal* preferences, they are left feeling dissatisfied that there has been insufficient time to offer, hear and reflect on in depth, through spoken language, the ideas and issues that are being explored.

(c) The subject sessions

For the English trainees, the subject sessions are generally seen as the most effective aspect of the PGCE programme. These afternoon sessions are used to explore a range of practical and pedagogical issues related to teaching English. The trainees appreciate working with a range of individuals who differ in age, background and experience but nevertheless share a love of English and a desire to be an English teacher. In particular, this style of learning appears to meet the needs of trainees who share a preference for *intuitive* learning. This is perhaps unsurprising given the fact that Felder and Solomon (1993: 8) suggest that *intuitive* learners prefer '*discovering possibilities and relationships'*. Moreover, Perry and Ball (2004: 23) suggest that PGCE English trainees tend to be *intuitive* and as such are likely to '*perform best in situations that call for generation of ideas, for being imaginative'*.

Whilst the majority of the English trainees in the study group report *intuitive* preferences, their attitudes towards the subject sessions are also influenced by their other learning styles preferences. Helen (**I**-Q), for example, has a strong preference for *intuitive* approaches combined a moderate preference for *sequential* learning. For Helen, the subject sessions successfully meet her need for direct input and involvement from the subject tutors alongside opportunities to discuss as a group of peers within a structured context. Once again the guidance of a strong, credible and interested 'teacher' is crucial for her. This is consistent with the suggestion that *sequential* learners like to be guided in their learning and welcome structure (Ginnis, 2004). She describes the tutors as *'brilliant'* because *'they've both been in the field'* and as such are in a position to give *'honest advice'*. She argues that the subject sessions are better than the other aspects of the course because:

> You read all these things in the books or the lectures when they tell you all this *bumpf* and then you go to your seminar where you talk about all the *bumpf* and then you go to see Paula and Ray and they put it into a real context for you. It's really interesting, not just to hear their stories but to hear their solutions, because they've actually done it. You quite often talk to the person next to you or in groups about it...you can give your opinion on it. You can think what you'd do. (Helen: I; 5).

For Helen the subject sessions provide a structured approach, underpinned by strong guidance from her teachers that leads to a definite outcome. They also provide a strong element of personal engagement and a human context that makes the learning *'real'*. To a certain extent this can be summed up in the way she appreciates not only the human interest provided by the tutors *intuitive 'stories'* but also the *sequential 'solutions'* that they offer.

Annie (S-**Q**) is the only individual in the interview group with a preference for *sensing* learning. Felder and Solomon (1993) suggest that *sensing* learners tend to prefer learning facts and doing hands on work. They suggest that such learners may find it difficult in classes that are too abstract or theoretical. Perry and Ball (2004: 24) hypothesised that *sensing* learners might *'prefer to deal with things rather than people'*. However, they found that trainee teachers with *sensing* preferences were happy to work alone *and* with people. This was also true for Annie. It may be that trainees with *sensing* preferences consciously or

unconsciously recognise that strongly *sensing* approaches are not suited to successful development as a teacher.

Whilst Annie notes that although there *'has been lot of group work on the course'* for the first time she has *'been looking forward to it'*. Her self-proclaimed dislike for group work does not appear to act as a barrier to her learning. Nevertheless, she highlights what for her are the inherent dangers of group work, stating:

> I don't like stallers. When we do group work I just want to get on with it but there are some people who are like 'oh, on what should the title be and what colour should it be in' and I'm like 'no don't worry about that'. And that's definitely my group work hate coming through. (Annie: I; 8).

Like other trainees with *sequential* preferences, Annie expects a clear purpose to the tasks they are set and wants these to be focused on achieving the desired outcome promptly. As a *sensing-sequential* learner she has, as Ginnis (2004: 41) proposes '*little patience with arty-farty ideas and waffle'*. This contrasts with her *intuitive* peers who appear to place a value on the group work or exploration as an end in itself. For Kathy (R-I-**W**), a trainee with a strong preference for *verbal* modes of learning, the regular group tasks and discussions have been the *'highlight'* of the university-based training. In particular, she values *'collaborating on ideas and the sharing ideas'*. She states that the success of the subject sessions also lies in the fact that they provide the time to read texts, research and discuss ideas with other learners, to listen to and hear each other's ideas and to reflect on this in one's own approaches. All of these characteristics play strongly into the combination or blend of learning styles she prefers – they are *reflective*, *intuitive* and *verbal*.

(d) Summary of the trainees' experience of/and attitudes towards their university-based training.

The learning styles preferences of the trainees in the interview group affect the way they experience and respond to the different types of learning encountered

during their university-based training sessions. With the exception of strongly *verbal* learners, lectures prove to be the least favourite approach to learning. *Sequential* trainees view lectures as potentially useful activities but are often disappointed with the limited impact they have on their learning. For *active* and/or *intuitive* trainees this appears to be as a result of a lack of practical or personal involvement. Lectures may be more effective for *sensing* learners who do not feel the need for personal engagement and are content to take on board the necessary facts and information.

Seminars and subject sessions are generally preferred by all trainees. Seminars offer trainees with *active*, *intuitive*, or *verbal* preferences opportunities to discuss, explore and engage with a range of opinions and personal perspectives. For some *reflective* learners, seminars can be rushed and the lack of time given to in-depth discussion of ideas is frustrating. For some *sequential* learners, a lack of structure, guidance and the absence of any connection between the ideas covered and a tangible outcomes can lead to seminars being considered a *'waste of time'*. The subject sessions, on the other hand, appear to meet the needs of most trainees. For the majority of trainees, they offer the right blend of collaborative and exploratory learning that appeal to *intuitive* learners, underpinned by good guidance and practical outcomes that appeal to *sequential* and *sensing* trainees.

5.3.2 The trainees' experiences of school-based training

This section examines the impact of the trainees' learning styles preferences on their development as English teachers during their school-based placements. It focuses on the impact of observing experienced teachers at work in their classrooms and the impact of the trainees' working partnership with their subject mentor. The value of effective mentoring on teacher development is well documented in the literature (Capel, 2001; Christie et al., 2004; Fletcher, 2000; Furlong and Maynard, 1995; Jones, 2000; Murray, 2001). However, the

recent coalition government's white paper, 'The Importance of Teaching' (DfE, 2010: 19), proposes that:

> We do not have a strong enough focus on what is proven to be the most effective practice in teacher education and development. We know that teachers learn best from other professionals and that an 'open classroom' culture is vital: observing teaching and being observed, having the opportunity to plan, prepare, reflect and teach with other teachers.

This assertion appears true for Debbie (I-**G**), a trainee who strongly favours *global* approaches to learning. Whilst she believes that theory is useful she states:

> I think it's really good that two thirds of the course is in school because my mum is a French teacher and she said that teaching is like driving… you take your test and then you really learn to drive when you're on the road. And teaching is the same. You can theorise all you like but you can only know what you are doing when you are doing it (Debbie: I; 4).

For Debbie, the craft of teaching is learnt best by doing it and experiencing it in the setting where it takes place. It would be tempting, therefore, to suggest that school-centred ITE might appeal more to *global* trainees in general. However, whilst Euan (V-**G**) shares Debbie's strong preference for *global* approaches, he struggles to develop successfully when working as an unqualified teacher prior to the PGCE. His attitudes and predispositions resemble those of Mandy, a case study described in Raffo and Hall's (2006: 60-61) study of PGCE trainees' transitions to becoming teachers. Poignantly, they suggest that:

> Mandy's case suggests that the complex and real interdependencies of personal biography, identity, predispositions and the social and cultural dimensions of context create particular paradigms of understanding that have an important influence on the way she has learnt and developed as a teacher.

In this respect, extreme caution should be taken before suggesting that, because of a trainee's preferred learning styles preferences, an individual is more or less likely to succeed in an HEI-led or school-led teacher training programme. An understanding of learning styles (for trainer and trainee) can, however, support a trainee to develop greater awareness of their own

predispositions as well as greater sensitivity to the needs of those they teach (Evans and Waring, 2004; Honigsfeld and Schiering, 2004; Rosenfeld and Rosenfeld, 2004; Tripp and Moore, 2007).

(a) Learning from lesson observations

During their school based placements, trainees are expected to carry out a number of formal lesson observations of experienced teachers at work in their classrooms. This should provide trainees with an opportunity to see and reflect on successful practice, to learn from watching skilled practitioners at work.

For Greg (R-**I**) who favours *reflective* learning, this opportunity is one of the prime benefits of the PGCE course. He values the opportunity to see and reflect upon a range of teachers in action, although perhaps not wholly as the coalition government might intend (DfE, 2010). Joking, Greg notes that '*you get to watch some very good teachers and (laughs) some less good teachers'*. Observing teachers at work has enabled Greg to internalise a carefully thought through view about teaching that distinguishes between the way so-called *good* and *bad* teachers operate. In particular, he concludes that:

> Bad teachers seem to have one idea of how children should learn and they go out and teach and don't seem to take into consideration the children's response, they don't let it affect how they teach (Greg: III; 6).

As the literature suggests, Greg gains through his observations and reflection a deeper understanding of the importance of thinking about the needs of the pupils and adapting or matching the teaching approach to suit those needs (Evans and Waring, 2008; Honigsfeld and Schiering, 2004; Rosenfeld and Rosenfeld, 2004).

Euan (V-**G**) favours *global* approaches to learning. He, on the other hand, finds that observing teachers in lessons merely confirms what he already thinks about the gap between the theoretical perspective that is taught in the university and the reality of what happens in schools. He approaches lesson

observations with a preconceived world view based on the *global* template he has conceived in line with his own experience. He rejects lesson observations as another example of the bureaucratic or *sequential* box-ticking, something to *'pass to someone higher up the ladder'*. He believes that there are many good teachers who do not utilise the techniques and approaches (such as starters and plenaries) taught in the university-based programme. However, whilst he takes against *sequential* approaches to teaching, he remains unclear as to how and why the teachers he has observed are *'amazingly good'*. Moreover, he finds it difficult to identify exactly what he has learnt from observing others that he can take into his own practice. For as Felder and Henriques (1995: 25) suggest *'before global learners can master a subject they need to understand how the material being presented relates to their prior knowledge and experience'*.

In stark contrast Beth (N), a trainee with no preferences, states that *'everything we've done at university, you can see taking place in school'*. She feels that the observations have been extremely useful, demonstrating a willingness to take on board a full range of approaches. Beth is especially grateful for the opportunity that she had to observe her mentor teaching a lesson that they had planned together. Beth explains that:

> I watched because he said that even though we'd planned it he wanted me to realise that things could go wrong. So he taught it, and things did go wrong and I watched him thinking on his feet. And so when I actually came to teaching my first lesson I felt confident, knowing that this can happen to any teacher not just to me (Beth: I; 4).

The experience encourages the trainee to reflect on and evaluate the success of a lesson that they have planned with some objectivity. It also builds confidence by demonstrating that, no matter how experienced the teacher, unforeseen things will happen in lessons that the teacher needs to respond to. The approach described by Beth appears both *reflective* and *intuitive*. It is not surprising, therefore, that Kathy (R-I-**W**) should also benefit from such an approach. She also values seeing experienced teachers at work because it gives her the time and space to reflect on her own practice and to consider how particular strategies and approaches might work in different contexts. Thus her mentor:

> Would model different ways of doing things so I could see in practice how they might work as well as trying them out myself which I found really useful. It was good to see a different teacher doing them with a different class as well as me doing them (Kathy: II; 3).

This approach to lesson observation meets her *reflective* and *intuitive* needs. It is successful because she is able to see and reflect on alternative ways of doing things and to experiment with them herself. It also enables her to reflect on the possibilities that are open to teachers and to consider the complex relationships that exist between different teachers, the approaches they select and the pupils they teach.

Of all of the trainees, John (**R**-I-**V**-Q) gains the most from seeing teachers at work and seeing their methods demonstrated and exemplified. This corresponds with his strong preference for *reflective* and *visual* approaches to learning. His *sequential* preferences also influence his desire take control over his own learning, to find a step-by-step approach and to achieve a tangible outcome as suggested in the literature (Evans, 2004; Reiff, 1992). In particular, he notes the value of the visits made to schools, stating that these enabled him to calibrate his own performance and progress. He notes the importance of *'benchmarking'* with people:

> who are professionals, who are doing the job we will be doing, seeing how it affects us, how it all works, and seeing different ways of doing things. Actual practical resources you could go away and use and practical demonstrations of those techniques (John: III; 5).

He also notes, in language that emphasises visualisation, that observing *'how various teachers dealt with various classes has been a real eye opener.'* In particular, it has been influential *'looking at different peoples techniques'* and being able to *'see the interaction between pupils and the way they were learning from each other'*. Tellingly, the most significant event in John's development as a teacher is a lesson observation of a design and technology teacher undertaken at the start of the course. He consistently replicates the observed approaches as a model in his own classroom and comes back to the

event during each of the semi-structured interviews. John explains that the teacher:

> had the classroom set out with groups of students they were mixed ability, mixed gender groups, and each one had a team leader. He provided the information in a team leader briefing and he then asked each individual in the groups to set targets for themselves for the lesson. Then, when the briefing was done, with specifications on the task, how long they had to do the task and then the team leader cascaded that back to the group. It worked extremely well because they were learning all the time. They were meeting those targets (John: II; 1).

The approach synthesises his preferred ways of learning. Here the teacher facilitates the learning by setting it up, in precisely communicated steps, a sequence of learning goals. Pupils also work in groups and, through structured collaboration, are encouraged to interact and explore *intuitively*. Whilst independence is encouraged, there are also clear roles assigned, shared outcomes and targets which the pupils are responsible for working to. In this respect the approach demands that pupils are analytical and *reflective* as they work through a defined *sequence* of learning activities that leads to a specific outcome. Interestingly, Evans (2004: 514) notes contradictions in the literature as to the teaching styles favoured by *analytic* [reflective-sequential] teachers. She suggests that some commentators see analytic teachers as *'more controlling, rigid, and less accepting'* of alternatives than their *wholist* [active-global] counterparts. However, others suggest that they are *'at the same time more imaginative and stimulating'*. It is noteworthy that the method John describes corresponds with all of those features.

For most of the trainees, lesson observations are a useful means of helping them to develop as teachers. In the best instances they provide opportunities to see different teaching approaches and to consider how effectively these work with different types of learner. Where lesson observations are planned or adapted to support the trainees' development, they also encourage a more *intuitive* exploration of the factors that influence successful learning and to recognise the importance of personal flexibility and fallibility. For some trainees there is a mismatch between what has been described as successful teaching during the university sessions and what is seen happening in classrooms. For

trainees with strong *global* preferences this may lead to a rejection of more structured approaches to teaching. For some trainees, seeing teachers at work plays a crucial role in helping them to identify strategies that they can employ in their own teaching. This appears particular important for trainees with a combination of *reflective* and *sequential* preferences.

(b) Learning from subject mentors

The literature indicates that school-based mentors play a central role in supporting the development of trainee teachers (Capel, 2001; Christie et al., 2004; Fletcher, 2000; Furlong and Maynard, 1995; Hobson, 2002; Jones, 2000). Indeed, the trainees in the interview group frequently cite mentors as '*the biggest influence*' (Beth: III; 4) on their learning and development during their school-based placements.

Many trainees feel it is important that their relationship with the mentor works well on a '*personal level as well as a professional level*' (Kathy II; 3). This is often a difficult balance to achieve. Furlong and Maynard (1995: 57) note that in a performance model the mentor acts as a '*systematic skills based trainer'.* In a competency based model the role is more complex; mentors '*support the students in developing and exercising appropriate knowledge and judgement in relation to their emerging practical teaching skills'.* Jones (2000) found that PGCE trainees share a number of common views about the role of their mentor. Thus, trainees expect mentors to act as advisers, colleagues, friends, trainers, assessors and models.

Commentators often recognise the need for mentors to adapt their practice so that it dovetails with their trainees' development (Fletcher, 2000; Hale, 2000). Furlong and Maynard (1995), for example, suggest that trainees develop through a recognisable series of stages. Others have suggested that it is helpful to consider carefully the compatibility of mentor and mentee when setting up a mentoring relationship. Murray (2001: 159) identifies '*the need to carefully*

match protégés and mentors using objective criteria based on the protégés developmental needs'. Hobson's (2002: 17) study of the perceptions of 224 secondary PGCE students also identified a need for ITE providers and schools to provide for 'more effective matching of mentors and student teachers to avoid potential clashes of personality or approach.' Mumford (1995) argues that matching trainee and mentor according to preferred learning styles is a potentially beneficial approach.

Whilst the mentors referred to in the study demonstrate a certain amount of flexibility, they appear to adopt consistent styles of mentoring. However, as the study did not set out to look specifically at the learning styles preferences of mentors any judgement should be seen as cautious interpretations of the trainees' testimonies. For some trainees, it appears that a mismatch between the apparent mentoring style and the trainee's preferred styles of learning creates both negative and positive tension. These negative tensions can act as barriers to learning and development that inhibit progress. Equally, they can encourage the trainee to push themselves to achieve the best outcomes. In this respect, Honey (1995:7) argues that whilst there are advantages to exploiting any potential differences, 'relationships with significant differences in learning styles are likely to be less productive than those where the individuals involved have similar learning styles'.

Beth (N), for example, contrasts her second mentor, who had 'more focus on achieving targets' with her first mentor who was interested enabling her to develop 'myself rather than developing how he wanted me to be'. Instinctively she prefers the more interpersonal mentoring of the first placement. Nevertheless, she acknowledges the benefits of having been 'pushed a lot more' on her second placement and concludes that as a result of this more performance based approach 'I've fast forwarded in phases two and three, whereas I might not have done so with the first mentor'. Beth adopts an open-minded view of the different styles of mentoring she encounters. She favours one style but sees how both styles helped her to learn effectively at different points in her development. Arguably this supports the findings of Armstrong

(2004: 611). He suggests that *'the cognitive style of the supervisor may be consonant with the requirements of particular phases [of learning]...whereas other phases may be in dissonance with that particular cognitive style'*. If this is the case it may be true that different stages in a trainee teacher's development are best served by different styles of mentoring that may or may not match those of the trainee.

Kathy's (R-I-**W**) experience is similar to Beth's. She contrasts the two styles of mentoring she received on her first placement and the impact they had on her development. The mentor's approach which matches her preferences is described as being the most successful. He encouraged her *'to think'*, provided her with the space she needed to reflect on her own progress and offered strategies to move forward. She notes that he '*gave me loads of freedom. He didn't expect me to teach in the same way that he did. His talks enabled me to experiment and find my own way'*. Working alongside the head of department was more demanding. Here the apparent mismatch motivated her *'to work really hard'* and to improve on those areas that had been identified as needing development. In particular she is frustrated by the fact that:

> At the times I felt "god there's no satisfying you" but when I look back at it now it worked really well because it actually really motivated me. In our talks I'd think she wasn't recognising what I'd done well, but she always commented on it in her written notes which made me think I had done well. I resented it at the time but I really value it now (Kathy: II; 3).

On reflection, Kathy realises that there was a benefit to be had from being pushed hard to satisfy her mentor. It motivated her and ensured that she worked hard to improve.

Greg (R-**I**) describes a general mismatch with his first mentor. Whilst *'attentive'* and generous with her time she was also brusque and insufficiently personally engaging in her approach. He describes how she '*was very much, this is a problem, and what are you going to do about it?'* His second mentor, on the other hand:

strikes a really good balance between giving me enough independence to solve my own problems and when it is clear that I an not achieving that quietly enough giving me ideas to try (Greg: III; 4).

Greg believes that this more thoughtful and emotionally intelligent mentor successfully meets his needs by providing the essential *'contextualized understanding'* of the issues he was dealing with. He appears to realise that Greg needs to think about not just the practical issues of planning and teaching lessons but also a much deeper and more reflective *'approach to that role which is a really unnatural role for me'.* In this respect there is congruence between mentor and trainee with the mentor *'guiding the learner through a process of reflection on the experience that the learner is undergoing* (Honey, 1995: 6). Tellingly Greg values the fact that the mentor was able to help him to reflect on *'the psychological moves that you have to fit yourself to as a teacher'.* As a *reflective-intuitive* trainee, Greg benefits clearly from an approach that emphasises the intrapersonal dimensions.

Getting the level and type of developmental feedback right is difficult. There is often a difference between what the trainee wants and, perhaps what they need. Interestingly, Evans (2004) suggests that the *analytic* [sequential] PGCE trainees are more likely to question the ability of mentors to give constructive feedback. This appears true for those trainees in this study who favour sequential approaches. Frank (**W**-Q) feels that he doesn't get *'enough feedback'* on his planning. Similarly Helen (**I**-Q) wanted to be given more specific and structured guidance and resources during her first placement rather than being left to her own devices. She notes that:

> At the time I wanted schemes of work, and (which I wasn't given). I had to try to do it on my own, which in phase 1 is quite difficult. Perhaps more explanation was needed or just more guidance instead of telling me I'm not doing it right just tell me what I should be doing instead (Helen: II; 3).

Helen feels that she needed both examples of what she had to teach and also clear guidance as to what she should do to put it right. Again, this appears consistent with Evans' (2004) suggestion that analytic trainees tend to worry

most about their subject knowledge, using differentiation strategies and gaining control of the learning situation.

Overall, those English trainees who report *sequential* or *sensing* preferences value a direct and straightforward style of mentoring which is approachable but nevertheless authoritative. Such trainees view learning to teach as a set of defined skills that can and should be learnt. John (**R**-I-**V**-Q), for example, describes his mentor as *'harsh but fair'*. He suggests that the mentor was worried that she had been too strict but he is quick to reassure her that that is exactly the approach he wants. Thus he notes:

> At the end of the phase she said "I hope I haven't been a monster?" I said "not at all" because we need straight talking. We need to know where we stand (John: II; 4).

Like John, Annie (S-**Q**), a trainee with *sensing-sequential* preferences, also values the no-nonsense approach of her mentor. This concurs with Evans' (2004: 524) findings that *analytic* [reflective-sequential] trainees often complain that they do not receive enough critical feedback and that their *'mentors shied away from honest dialogue'*. She describes her first mentor as being *'supportive'* but more importantly he *'knew his stuff'*. She notes positively that her *mentor 'was happy to answer any questions and I shouldn't worry about finding things out for myself if he quite clearly knew the answer'*. Unlike *intuitive* and *reflective* trainees, Annie does not want to waste time discovering successful approaches if she can be told. For her, there is an *'answer'* to be had and she is comfortable being shown how to do something. In this respect, she especially appreciates her second mentor who *'calls a spade a spade.'* Annie responds positively to her frank style of mentoring which appears to match her needs well. She notes that:

> She says what you haven't done and what you need to do. She doesn't flower it up, there is no sympathy. If it hasn't been a good lesson she isn't going to say it's a good lesson. This is what I like (Annie: III; 4).

Carl (A-**I**-Q) works with this same mentor during his first placement. As a *sequential* learner, he also appreciates that she was *'straight down the line'* and

would point out if he was doing things wrong. However, there were times when (as an *intuitive* trainee) the mentor's actions and expectations were a barrier to his successful learning and development. He notes that:

> I found her a little bit unapproachable. I mean at the first meeting it was 'you're going to fail your first observation'. It was that kind of negative output from the beginning. She was a great teacher. But still, the were certain aspects like I had to give in all my lesson plans a week in advance and she'd give them back to me with corrections and I'd have to re-do them all. I didn't understand, and I didn't feel that I could question that (Carl: II; 2-3).

Carl struggles with this mismatched approach at an interpersonal or *intuitive* level (there are times when he doesn't feel he can approach or question the mentor) and also in terms of her more *reflective* approach. He also finds it difficult to be sufficiently organised to plan, hand in and potentially redraft his lesson plans in advance. This is consistent with Evans' (2004) suggestion that PGCE trainees who favour *active* and/or *intuitive* approaches to learning tend to be less organised and find it hard to work to deadlines. He was not expected to do that during his second teaching placement and it is there that he feels he '*flourished'*. By contrast, he notes that the mentor was '*really friendly'*, '*encouraging'* and had '*a lot of faith' in him as a teacher'*. Importantly, he felt a sense of belonging that had been absent from the first placement. He '*felt like a member of the department rather than a student there'*. Tellingly all of these successful characteristics play to his strongly *intuitive* preferences. Mumford (1995: 6) suggests that strongly *pragmatist* [intuitive] learners will be most interested in those opportunities that relate to their immediate circumstances. When supported by a *theorist* [sensing] mentor such trainees might not be able '*to perceive that a mentor is doing something additional but merely that what is being offered is different from his or her priorities.'* *Activist* learners may also be less willing to engage in reviewing processes (seen in Carl's reluctance to redraft schemes of work) and may ignore or find uncomfortable the mentor's suggestions. All of these factors appear true for Carl.

Like Carl, Louise (**A-V**) reports a preference for *active* approaches to learning. She sees her subject mentor as having had an important role to play in her development as a teacher. Characteristically she evaluates the impact of her

first mentor in highly physical metaphors that illustrate the sometimes contradictory attitudes she has to her own development and learning. She notes that during her first placement:

> I was left a little bit on my own. This is what you've got to do, here's your timetable, here's your scheme of work, off you go, which in a way I like that because I can jump in and it's either sink or swim type of thing but I did feel at some points that I was just treading water (Louise: II; 3).

As an *active* learner, Louise appreciates the fact that she was able to get physically involved quickly during her placement. However, she also considers whether being left to her own devices has slowed her progress. Looking forward to her second placement she contemplates whether a more structured approach will benefit her or frustrate her. Thus she suggests:

> it's going to be more structured. I don't know how that's going to work with me. Part of me thinks 'oh that's goings to be fantastic, I'm going to have all that support' and part of me thinks 'am I going to be drip fed little by little?' Sometimes I'd rather dive in (Louise: II; 3).

For Louise the tension is between her desire as an *active* learner to get physically involved as quickly as possible and a sense that maybe she has not received the support she needs to make progress at a faster rate. In this respect she appears to recognise implicitly Armstrong's (2004) suggestion that learners may benefit most from supervision that matches the task or phase of development rather than their own preferences.

For the trainees in the interview study group there seems to be an overarching benefit from working with mentors whose approaches match their learning styles preferences. What trainees expect and want from their relationship with their mentor is also influenced by their combination of learning styles preferences. *Reflective* trainees benefit from mentoring that enables them to think about alternative approaches and to make their own connections between theory and practice. *Intuitive* and *active* trainees appreciate mentors who are supportive and encouraging and allow them to develop personally and independently as teachers. For trainees with *sequential* and/or *sensing* preferences there appears to be a desire for the mentor to be an adviser and

guide, providing precise feedback as well as giving the trainees tried and tested methods of successful teaching.

Where there is an apparent mismatch between the mentor's predominant style and the trainee's learning style preferences, this can act as a barrier to successful learning and development. However, several trainees recognise that at times mentoring styles that they feel uncomfortable with play an important role in challenging them to develop beyond their habitual comfort zone.

5.4 Learning styles preferences and the trainees' experiences of teaching

Commentators have suggested that learning styles preferences influence teaching styles (Honigsfeld and Schiering, 2004; Perry and Ball, 2004 and 2005; Raven et al. 1993; Vaughn and Baker, 2001; Veronica and Lawrence, 1997). However, there is relatively little in the literature that explores qualitatively the actual impact of learning styles on the experiences of trainees as they learn to be teachers. Indeed, Evans (2004: 512) suggests *'the relationship between teaching styles and cognitive styles has not been explored to any extent in UK classrooms.'*

This section examines the extent to which the learning styles preferences of the English trainees influence their teaching approaches. It explores the trainees' approach to lesson planning, their use of group work and drama, and the strategies they employ when teaching Shakespeare, poetry and writing. These topics arose directly out of the experiences that the English trainees focused on in their interviews. It concludes with a brief consideration of the trainees' evaluation of their own development as teachers.

(a) Planning lessons and planning learning

For most trainees, the planning of lessons is a particular concern. Within the interview group those trainees with *sequential* preferences have the most to say about the importance of planning. This is consistent with the literature which indicates that *sequential* learners and *sequential* preservice teachers value highly structured approaches (Evans, 2004; Felder and Solomon, 1993; Veronica and Lawrence, 1997). *Intuitive* and *active* trainees, on the other hand, place a greater emphasis on exploration, creativity and originality. As the majority of English trainees favour *intuitive* approaches to learning this is a consistent feature in their testimonies and concurs with the findings of both Veronica and Lawrence (1997) and Perry and Ball (2004).

Carl (A-**I**-Q), for example, strongly favours *intuitive* approaches. He puts a premium on creativity in his planning. Prior to his first teaching placement he notes that he is: '*Looking forward to being original within lesson planning, new styles of learning, new activities, original worksheets'.* Nevertheless, as a *sequential* learner he also recognises the need for a definite plan. Thus he worries that:

> my biggest concern when I go in is planning the lesson and being in the lesson and its all falling apart and I'm writing on the board 'this is the aim for today' and the objectives and we're going to be doing this and just seeing a whole sea of faces saying we don't know what we're doing (Carl: I; 6).

Carl's *active*, *intuitive* and *sequential* preferences also shape the attitudes he has to why some lessons are successful and other less so. Thus he describes a series of Year 7 lessons he taught as unsuccessful because the scheme of work was '*dry'* and '*just a lot of textual stuff'.* Carl notes that teaching the scheme felt like he was creating the lessons as he went, concluding that '*the unit of work wasn't mapped out properly. I would have scrapped it all and started again'.* Importantly, Carl's evaluation focuses on the fact that the sequence of lessons was not organised well enough and that the content was not sufficiently imaginative or actively engaging. Tellingly, he doesn't think the scheme of work

could be adapted, but suggests rather he would start again in order to create something 'original' and 'new'.

At times, however, Carl's desire to be creative and to place himself in the learning leads to problems of lesson execution. He evaluates an unsuccessful lesson by suggesting that the pupils *'didn't know why they were doing the role play'* he had planned. Moreover, he states that *'I think it was because I rushed through the beginning of the lesson; I just wanted to give them the activity and then walk around the classroom'*. Carl evaluates the difficulties that arise in terms of his own learning styles preferences. As an *intuitive* learner/teacher he realises that the pupils were not given the context or rationale that *intuitive* trainees frequently describe as being essential. He also believes that difficulties arose largely as a result of his desire to get the lesson *active* and moving. Indeed, the literature suggests that such problems may arise for *active* trainees who tend to rush into things (Felder and Solomon, 1993; Veronica and Lawrence, 1997). Thus, whilst *activist* trainees seek to get learners directly involved with the learning, taking risks and embracing new ideas before reflecting, there is a danger that pupils who want *'to watch before being involved, or find out more about the detail before starting could become frustrated'* (Veronica and Lawrence, 1997: 167-168).

Annie (S-**Q**) reports a combination of moderate *sensing* and strong *sequential* preferences. Whilst she also values the opportunities to build strong and often personal relationships with students, effective planning provides and important route map to successful learning. This supports the findings of Raven et al. (1993) who note that *field-independent* (sequential) trainees were just as student-centred as their more *intuitive* counterparts. A key difference, however, appears to be the way the *sensing-sequential* trainee structures and controls the learning. Thus, Annie evaluates a series of successful GCSE lessons, noting:

> It's a scheme of work that the department had already done, and there were resources with it. I adapted it, some of the resources to my own, but there was a six lesson scheme and I stuck to the sequences and the class knew what they were doing every lesson, and there were clear instructions so they listened (Annie: III; 1).

Unlike Carl, Annie is happy to use a scheme of work that has been trialled by the department. She argues that the success of this plan was its tight structure which allows pupils to know where they were at a given point in the learning and to understand clearly what they were expected to do. This is consistent with the findings of Veronica and Lawrence (1997: 166-167) who note that reflector [sensing] teachers characteristically felt most comfortable teaching in a manner which *'controlled both the information and the way in which pupils would be expected to learn'.* In addition they found that such teachers expressed *'a need to know that pupils had all of the information and the only way for this to happen was if they were to give it to them'.* This appears to be true for Annie.

John (**R**-I-**V**-Q) has strong *reflective* and *visual* preferences combined with moderate *intuitive* and *sequential* preferences. His approach to learning mirrors strongly his particular preferences, particularly in terms of the way he plans and structures lessons. He is meticulous in his planning which is highly operational. It is as if he wishes to control as many of the variables as possible. As discussed previously, he adopts an approach used by a design and technology teacher. This method requires dividing pupils into groups or teams, choosing a team leader, briefing them *'using an instruction sheet with the objectives, and the aim, the final completion task, what they had to do as an outcome.'* The approach is objective and outcome driven but is also designed to maximize the responsibility, involvement and independent analysis of the students. As such it draws on all of John's own preferences and is consistent with the suggestion that individuals habitually teach how they prefer to learn (Evans, 2004; Vaughn and Baker, 2001; Veronica and Lawrence, 1997).

Greg (R-**I**) shares John's *reflective* and *intuitive* preferences. However his favoured approach is not modified by a *sequential* preference. As a strongly *intuitive* learner, like Carl, his planning is less operational and more concerned with the context of the learning and the relationship between the elements

therein. He reflects on an unsuccessful lesson whose *'main objective'* was to look at the origins of English. Greg notes that he wanted the pupils:

> to think about the meaning and identify why that word was created. They were then going on to explore how old words had developed and the meanings and give them a bit of background - the cultural influences upon the English language (Greg: II; 2).

For Greg, the objectives and the outcomes are framed within the pupils' *intuitive* exploration and their understanding of the context of the learning. They require reflection on changes to language but also changes to society and historical events that have impacted on the development of language. Ultimately Greg judged the lesson to be unsuccessful, not because he hadn't planned suitable tasks but because, in a similar fashion to Carl who shares his strong *intuitive* preference, he feels he wasn't able to explain the *'purpose'* and context of the learning clearly enough. He reflects:

> Where they really got stuck was my explanation of what I was trying to achieve not just within the task, but the point of what we were doing. I can't remember why but I didn't give a purpose to it, I didn't give it a context. I asked them to do a task they didn't really understand (Greg: II; 2).

Not only is it important, therefore, that the pupils know *what* they have to do but, for Greg (like Carl), they need to know *why* they are doing it.

Whilst most trainees in the interview group are concerned with learning to plan effective lessons, the approach they take and the rationale they express for making decisions is influenced by their blend of learning styles preferences. Comparing Annie and John's more *sensing* and *sequential* approaches with Carl's and Greg's more *active* and *intuitive* approaches, it is possible to see the strengths and weaknesses of the contrasting approaches often identified in the literature (Evans, 2004; Honigsfeld and Schiering, 2004; Raven et al. 1993; Veronica and Lawrence, 1997). Indeed, Perry and Ball (2004: 13) suggest persuasively that many of the battles in education have been struggles between sensing and intuition. On the one hand, are *sensing* teachers who advocate *'methodical, sequential attention to the facts, which may be contrasted with the voices of intuitive types calling for greater independence among learners and*

innovative approaches to problem solving'. This potential dichotomy of approaches will be explored in more detail below.

(b) Group work, drama and active approaches to lessons

It would be unusual for a trainee not to be encouraged to utilise *active* approaches such as, group work, drama and role-play in their teaching. What is interesting, however, is the manner in which trainees choose to use such strategies and the way they interpret or evaluate their success. Some *active* approaches are also discussed in later sections, particularly that looking at the teaching of Shakespeare.

At the start of the course, even Annie (S-**Q**), with her self-professed dislike of group work, is *'really looking forward to teaching drama'*. Nevertheless, influenced by her own preferences for *sensing* and *sequential* approaches, she is determined to make such learning more focused and centred on tangible outcomes. For Annie, outcomes are important if drama activities are to avoid the very loose, unstructured and unsuccessful experience she remembers from her own schooling. Thus she states: *'I always used to see it as a bit of a slacker subject. My whole drama experience was terrible but I want my drama lessons to be more structured and with results.'* This concurs with Ginnis's (2004) suggestion that strongly *sensing* learners find unstructured lessons especially frustrating.

Consequently, Annie plans drama activities that have clear objectives and she puts herself, rather than the pupils, at the centre of the learning. This is consistent with Veronica and Lawrence's (1997) suggestion that *reflector* [sensor] teachers like to control the learning and feel responsible for passing on the required information. Thus, interestingly, she doesn't initially expect the pupils to enjoy the *active* and *intuitive* drama work or participate so readily. She notes: *'I put myself in the hot-seat and they could ask me questions and I would be a character because I had no idea that anyone would be brave*

enough to volunteer'. The success of the lesson lies, she argues, in the fact that not only were the pupils engaged but they were also achieving the planned *'outcomes'.* The drama activity wasn't vague; it was structured on generating *'good questions'* and led to a better understanding of the characters. Importantly, Annie recognises that the pupils she teaches have preferences that don't always match hers. She appears to understand that there is a balance to be achieved between what she sees as a successful approach and meeting their preferences. Sensitivity to such learning styles differences has been noted as central to a teacher's ability to successfully differentiate (Evans and Waring, 2006; Honigsfeld and Schiering, 2004; Rosenfeld and Rosenfeld; 2004).

Helen (**I**-Q) also recognises the need to meet the learning styles preferences of the pupils being taught. As a *sequential* trainee, she also notes the importance of lessons being ordered and pupils guided. However, she consistently prioritises the importance of pupil engagement and enjoyment of the learning, *intuitive* characteristics which she feels equate to successful learning. Thus whilst her Year 7 pupils enjoyed the *active* and *intuitive* small group research on 'The Marie Celeste', they subsequently lost interest when asked to adopt *sensing* approaches and identify facts and opinion from a text on the subject. It is telling that her interpretation mirrors closely those aspects of her own school learning that she favoured and disliked. She notes that:

> It was a very dry scheme of work which I didn't adapt enough. I should have changed a lot of the lesson plans...made them more interesting which the other teachers had done. I think what I'd lost sight of was that the children just needed to learn skills; they didn't need to do the lessons in this way so long as they were learning the correct skills. With This Year 7 group in particular, they liked doing drama activities and presenting to each other so I should have made it a lot more active rather than listening to me just talk (Helen: III; 2).

Like Carl (A-**I**-Q), Helen describes the scheme of work as *'dry'* and in need of adaptation, secondly, she realises that whilst the pupils need to learn particular skills the approach to teaching these skills can be flexible. She concludes, therefore, that she should have used more *active* approaches, including drama and presentations, to engage the pupils in the learning. Several commentators note that kinaesthetic or active pupils can be disadvantaged in classrooms that

are more passive and auditory (Ginnis, 2004; Hoskin, 2009). Whilst the literature that concerns the merits of matching teaching and learning styles is inconclusive, in this situation Helen appears to echo the views of those who believe it is important that teachers are able to adapt their approaches to a range of styles (Felder and Spurlin, 2005; Peacock, 2001; Tripp and Moore, 2007).

Louise (**A**-**V**) makes very regular use of *active* approaches to teaching in accordance with her own learning styles preferences. These kinaesthetic strategies include both the tactile approaches (making, sorting, cutting sticking, arranging) as well the physical activities (demonstrating, rehearsing, role-play) that are described by Ginnis (2004). When teaching a media unit, for example, she plans *'loads of kinaesthetic work'* such as *'putting things into order, card sorts, physically making card sorts out of people if that makes sense, giving them cards and getting their friends to direct them and move them around the room and put them in order'*. These activities are both *'hands on'* and tactile work but also physically involve the pupils in the learning. Tellingly, they involve pupils directing each other and moving around the classroom space. This approach is supported by the use of video and *'lots of visual clips'* as well as making their own horror films.

Louise's habitual teaching approach mirrors closely the approaches she favoured when at school and university. Thus, she makes it clear to group of low ability Year 10 boys that she was not going to use the teacher-led, chalk and talk style of lessons that she rebelled against. Instead, she places herself as an *active* participant in the learning, sitting alongside them, providing high levels of one-to-one attention. She describes successfully teaching them the practical skills needed to do a debate on illegal immigrants. The approach she takes involves the whole class and puts her in an *active* almost directorial role. She notes how she put the students:

> into two teams and had to give them all numbers. And say, "Right number 1 put your point across. Number 1 from the opposing teams you argue that point then we'll pass it back to number 1 from team A. It all had to be so structured because they were incapable of not talking over each other. I don't think they could have done that without the structure (Louise: II; 1-2).

Louise talks about the structure of the learning but importantly describes what sounds like a rehearsal. She argues that the content is secondary to the skills that the students need to be able to debate successfully. To achieve this she physically orchestrates the way that the students should act, take turns, listen to and build on each other's ideas. Her approach is consistent with Veronica and Lawrence's' (1997) findings that *activist* [active] teachers like learners to get on with the task in hand, practise skills, become involved and avoid unnecessary discussion. Taken together, her approach very closely matches her own *active* preferred way of learning and appears suited to these pupils who share her preference for *active* approaches and often struggle in auditory classrooms (Ginnis, 2004; Hoskin, 2009).

The trainees all employ *active* strategies in their teaching. However, the way they plan and deliver such activities is influenced by their own learning styles preferences. For some *sensing* and *sequential* trainees there is a need to ensure that drama and group work are structured, controlled and have definite outcomes. For *intuitive* trainees a greater importance is given to the learner's *active* involvement and personal engagement in the learning. An *active* learning style preference appears to lead to trainees adopting kinaesthetic approaches that are both tactile and physical. For several trainees there is a growing recognition that pupils may benefit from more *active* approaches and that they, as teachers, often have a tendency to employ methods that do not sufficiently appeal to such preferences. Moreover, where teaching style and learning styles are matched this can lead to the perception of better quality learning.

(c) Approaches to teaching Shakespeare

The teaching of Shakespeare poses challenges for trainees and experienced teachers alike. Not only is the language a potential barrier to pupil engagement and understanding but there also exists a tension between Shakespeare's plays as (active/visual) drama texts to be *performed* and (reflective/verbal) literary texts to be studied. Whilst one set of learning styles prioritises the importance

of doing and seeing the other prioritises thinking, reading and writing. Some commentators have suggested that most teachers employ methods that are predominantly *reflective* and *verbal* and that this can act as a barrier for learners who favour alternative approaches (Briggs, 2001; Evans, 2004; Honigsfeld and Schiering, 2004; Smith, 2002; Veronica and Lawrence, 1997). This section explores the extent to which the trainees own learning styles preferences influence the predominant approach they take to teaching Shakespeare.

Carl (A-**I**-Q) favours drama-based approaches when teaching Shakespeare. His favoured approach reflects his preferences for learning that is *active* and involves the pupils *intuitively* in exploring their own thoughts, feelings and experiences. However, it is also structured reflecting his *sequential* preference. He evaluates a successful lesson he taught introducing 'A Midsummer Night's Dream' by saying:

> I think it was well structured, well timed. There was enough time for everyone to do everything. It was really clear what we were doing and it was easily accessible. I mean at the beginning we did the relationship, with parents so that had brought in the modern aspect already. Then we drew it back to the text, so I don't think they were fazed by the difficult language. Because we used the modern role play they engaged with that more (Carl: II; 1).

Carl judges the lesson to be successful because the structure and timing of the lesson enables pupils to get *active* quickly but also provides them with sufficient time to complete each activity fully. It also focuses on what the pupils know from their own experience about the kind of relationships found in the play. By emphasising these, and asking the pupils to role-play a number of *'modern'* situations, the potentially challenging language of the text becomes more *'accessible'* and pupils begin to see what they bring to the text or how they can relate their experience to it. In short, the successful approach combines Carl's *active*, *intuitive* and *sequential* preferences; it is well-structured, logical, gets pupils actively involved and engages pupils emotionally with exploring the text.

Debbie's (I-**G**) *intuitive* approach to studying Shakespeare is similar to Carl's. It emphasises ensuring that the text is made more accessible and that the

approach provides pupils with a sense of ownership. She is influenced by strategies she experienced during a workshop at The Globe Theatre. She uses the approach when looking at a soliloquy from Macbeth, noting how:

> The whole class was given a copy and you go round the class and each pupil chooses the word that they think is most important from each line. It is actually a really good way of getting to grips with what this massive piece of text is all about. It's a real access point because the students have to put an action on top of that word and then you get them to whisper it, and walk around, and find people who have similar words to them and you end up with themes all grouped together...it's not as teacher led...they are more in charge of what is going on. That gives them ownership of the text (Debbie: III; 2).

Debbie suggests that this approach is successful because it involves *all* of the class coming together to share their growing understanding for the benefit of each other. It is *active* and *intuitive* but also appears to strongly satisfy her *global* preferences; it provides a bigger picture and a *'real access point'* which will enable pupils to take charge and look more confidently at the language. As such it is consistent with Evans' (2004) description of *wholist* [global] teaching behaviours. Such teachers, she suggests, value spontaneity, discovery learning, informality, concern for global effects rather than precise details and allowing the learners themselves to organise the teaching and learning sequence. This contrasts with the more controlling tendencies of the *sensing* and *sequential* teachers described by Veronica and Lawrence (1997).

Kathy (R-I-**W**), reports a strong preference for *verbal* approaches to learning. Evans (2004) notes that such trainees are often happiest with learning strategies that use text, speech, presentations and didactic exposition. In this vein, Kathy adopts a text based approach when looking at an extract from 'Romeo and Juliet'. Whilst the key objective of the lesson is to enable the GCSE students to *'think about it as a play rather than as a book or a novel'*, she employs her own favoured reading/reflecting/discussion based approach rather than a drama one. Thus, she notes:

> I had some work prepared for them on the prologue and I wanted them to pick out the words associated with *love* and the words associated with *hate*. I wanted them to circle or underline or text mark them in different colours or something to show the difference.

> But I obviously didn't explain it very well because as soon as I had given them out and explained it once about 20 million hands went up. (Kathy: II; 3).

Unlike Debbie, who invites pupils to work collaboratively to get an overall feel for the play through exploration of single words, Kathy begins with the whole text itself. The text-marking activities she plans require the students to focus independently on particular features of the written language and to reflect on how these combine to create an overall linguistic effect. However, Kathy recognises that the students struggle to complete the task and is frustrated that they didn't understand her intentions. Tellingly, she concludes that:

> I should have explained it to the class better, if I'd worked out exactly what I was going to say it might have been better and definitely if I'd read it out to them, or even got a member of the class to read it out - because at no point had they actually heard it and I assumed they were just going to read it (Kathy: II; 3).

For Kathy, the very wording and clarity of spoken explanations are paramount. Kathy also suggests that the tasks themselves were flawed, not in themselves but in terms of the point at which they were introduced. She had assumed that the pupils would (and could) read the text independently – something she enjoys doing and is consistent with her own learning styles preferences. What she concludes, however, is that there was a missed opportunity for her to read (rather than act out) the text so that the pupils could *'hear'* the language. Interestingly, she doesn't consider that she might have used a more *active* or *visual* approach.

The trainees in the interview group use a range of approaches when teaching Shakespeare. However those trainees who report *active*, *intuitive*, *visual* or *global* preferences appear to favour drama and collaborative group work based approaches that enable pupils to build up a broader understanding of the themes and characters in a play, before tackling the text. For a trainee who favours both *reflective* and *verbal* approaches the reverse seems to be true with a preference given to independent text based approaches that focus strongly on reading (rather than performance) and analysis (rather than exploration) of Shakespeare's language.

(d) Approaches to teaching poetry

In some respects the teaching of poetry presents trainees and serving English teachers with similar challenges to Shakespeare; it can often be taught through predominantly *reflective/verbal* approaches when *active/visual* approaches might arguably prove more useful. What is interesting, in this study, is that the approach the trainees habitually take to teaching poetry appears to consistently match their self-reported learning styles preferences and draws on the methods they experienced as learners in school.

As with her teaching of Shakespeare, Kathy (R-I-**W**) adopts a word or language based approach to delivering the same GCSE poems. Interestingly, she suggests that the approaches that appear well-suited to her lower ability set Year 11 are far less successful with her upper ability Year 10. Although she was well-prepared and felt that she had created a set of high-quality resources, the Year 10 pupils did not respond to them or to her attempts to involve them in the learning. Evaluating the lesson, she concludes that:

> I think that was because I was overly reliant on resources instead of working out what I was going to say. I kept the PowerPoint because it's easier than writing up stuff but I reduced it because what was happening was; 'Oh god another slide' and I could feel the kids getting more and more restless. They didn't like to talk to me or back to me as a whole group. They were okay talking in pairs or threes but didn't like talking as a whole class or individually when the whole class was paying attention to them. They were quite happy to work on their own (Kathy: III; 2).

Kathy realises that one cannot rely solely on written resources that are have not been adapted to suit the audience. As Hoskin (2009) suggests, what may suit one group of students can be dull and uninteresting to another. The use of PowerPoint is, on her own admission, a lazy form of presenting written notes rather than as Ginnis (2004) suggests a useful way to help pupils to visualise the learning. As previously, Kathy falls back on the need to prepare what she is going to say and emphasises the importance of the teacher's spoken word, a style said to be favoured by trainees with verbal preferences (Evans, 2004; Petty, 1998).

Louise (**A**-**V**) states that she enjoys teaching poetry and her teaching approaches are consistently influenced by her own strong preferences for *active* and *visual* approaches. It is telling, therefore, that the example she gives of teaching is both highly *visual* in its approach but also tackles poetry from the point of view of actively making poetry rather than reflecting on it critically. She explains how:

> Recently I took pictures from…the artist that did melting clocks [*'Salvador Dali?'*] Yes! that's it, and we took pictures of his and wrote poems from those pictures, just taking out words of things you could see in the pictures, like 'clock', 'branch, 'hot, 'desert' and writing them down on the page and then adding words to make a poem, which worked really well with lower groups (Louise: III; 4).

Louise believes that such an approach is a helpful way of making and *'exploring poetry'.* It rejects a more formal and auditory and text based approach that is said to be favoured in secondary and tertiary classrooms (Briggs, 2000; Hoskin, 2009; Petty, 1998; Smith, 2002) and uses striking visuals from the world of art to stimulate the pupils' own *active* making and writing. Such tactile approaches are consistent with those described by Ginnis (2004) whilst the use of striking visual imagery and representations are approaches favoured by *visualiser* [visual] trainees (Evans, 2004).

John (**R**-I-**V**-Q) also uses *visual* approaches when teaching poetry. However, his choices are often influenced by his strongly *reflective* and moderately *intuitive* preferences. Thus, like Greg (R-**I**) he focuses on enabling pupils to intuitively explore and feel the mood of a poem or to reinforce the emotional context for the work or to provoke thinking and reflection. At a simple level, he describes using a *'fire visual to create a spooky atmosphere'* when studying gothic poems. On a *more 'ambitious'* scale he attempts to create a striking visual impact as a stimulus for writing when studying World War I poetry with Year 10, noting:

> I had same lovely images of poppies that I had printed off the internet and it was the lesson before the assembly on Remembrance Day. I chose to do "Flanders Fields" and I laid out a picture of a poppy on each pupil's desk to demonstrate - the idea was that they would see these before them as they entered the room and this would be a stimulus for standing in Flanders Fields after we had read the poem (John: II; 3).

He describes using the image of a poppy as an attempt to *intuitively* generate in the pupils the feelings associated with this potent image and to put this within the emotional and historical context of the symbol. It is essentially an approach that uses a powerful and *visual* coup de theatre to stimulate *reflection* amongst pupils. Noticeably, this contrasts with the more kinaesthetic use of visuals employed by Louise. She wants pupils to do and see, in order to make language, whilst John wants pupils to feel and reflect on the power of language through the visual representation. Whilst both trainees employ visual approaches, therefore, these are also influenced by their additional learning styles preferences.

Euan (V-**G**) reports a strong preference for *global* approaches to learning. The approach he takes to teaching poetry is perhaps the most innovative method used by any the trainees and is strongly influenced by his own learning styles preferences. Whittington and Raven (1995) suggest that *field-dependent* [global] teachers try to socially orient their students by encouraging them to work cooperatively. Evans (2004) suggests that *wholist* [global] teachers are often concerned with global effects rather than precise detail; their preferred strategies are typified by undisciplined thinking and tangential approaches to tasks. These descriptions are consistent with the approach Euan takes when teaching Benjamin Zephaniah's 'Imagination Nation' as part of a Year 7 unit on creativity. Here, he begins not with the text itself but with a big picture history of poetry and poetic theory. He describes how:

> I introduced that poem through things that I'm interested is so I started going on about 'Plato' and 'Socrates'. I glanced up at one point and the observer was like 'What are you doing? This is a Year 7 class!' But I was amazed - over 50% of then knew who Plato was. I started talking about Plato first of all…because Plato reckoned that we shouldn't teach literature in school, basically, especially poetry because it is just full of lies. I compared that with Wordsworth and the Romantic ideals and then I moved on from that to Benjamin Zephaniah. At the end of the lesson the teacher that was observing me said that I shouldn't have mentioned Plato and I shouldn't have mentioned Wordsworth and I should just have gone in to do the poem. But I wanted to give them a bit of background information that they were being forced to do poetry in one respect (Euan: II; 2-3).

Tellingly, Euan chooses to come to the poem last of all. He prioritises the *global* overview of poetic thought, ideology and philosophy. On one level, this is an

ambitious and potentially inspirational approach. Euan wants to empower the pupils through their understanding of the cultural capital and literary politics of that which they are being *'forced'* to study. He wants them to know that they can question the learning. It also appears to be a calculated challenge to the more teacher-led *sensing and sequential* approaches to teaching that have been said to prevail in schools (Honigsfeld and Schiering, 2004; Petty, 1998; Veronica and Lawrence, 1997) and which are possibly expected by his mentor. Thus, whilst Euan acknowledges the feedback given, he also enjoys the fact that he has shocked the observer. As such he rejects what he sees as the more *sequential* focus on poetry (as literary works in isolation) in favour of an expansive highly *global* approach (that attempts to place the form within its wider historical, philosophical, cultural and political context).

The trainees' learning styles preferences influence the approaches they choose to take when teaching poetry. Trainees with *intuitive* preferences want pupils to explore the poems in order to engage personally and find relevance, particularly in terms of their own experience. Trainees with *reflective* and *verbal* preferences often adopt text based and language analysis approaches. Trainees with *active* and *visual* preferences utilise corresponding approaches when teaching poetry. However, these differ according to the trainee's blend of preferences. Some employ visual and tactile approaches to making poetry whilst others use visualisations to stimulate feelings and encourage reflection. The *global* trainee appears to reject more *sequential* approaches by attempting to place the individual poem within a much wider context.

(e) Approaches to teaching writing

English trainees are commonly introduced to two broad schools of thought in terms of teaching writing. The first approach, promoted recently in many secondary English departments as part of the National Strategies can be thought of as a genre based or *sensing-sequential* approach (see appendix F). Texts conform generally to set types of form, layout and language structure

and it is possible to teach the key ingredients of these types of writing through exemplification, modelling, shared writing and subsequent practice. This method enables the teacher to exert greater control over the learning, as favoured by *sensing* and/or *sequential* teachers (Evans, 2004; Honigsfeld and Schiering, 2004; Veronica and Lawrence, 1997; Whittington and Raven, 1995). The other approach is a more exploratory or *intuitive*. It provides pupils with opportunities to learn to write through their writing; it is more pupil-centred and could be said to appeal to more *intuitive* and/or *global* teachers (Evans, 2004; Ginnis, 2004; Perry and Ball, 2004; Whittington and Raven, 1995). Both approaches are valid but may appeal to different types of trainee and/or different types of learner.

Frank's (**W**-Q) describes his most successful lessons as being linked to the teaching of writing. Frank's approach is strongly process led, *sequential* and cumulative. It is based on the teaching of discrete skills that build on each other. Thus, he describes a successful *'sequence of lessons'* focused on GCSE original writing coursework. He notes how the students *'had to come up with a story and over the weeks we'd been doing figurative language, then into character development, all the little bits'*. The approach he takes is consistent with the *verbal* and *sequential* learning styles described by Felder and Solomon (1993) and it corresponds with the *analytic-verbaliser* trainees described by Evans (2004). His method is highly structured, patient and focuses on each of the elements of successful story writing, building up (from word to sentence to whole text level) to the point where they are able to write a complete draft. For example, he describes one activity where he had prepared a set of laminated cards:

> it would say "imagine a tree in your mind, what tree would it be?" And on a post-it note they had to write the first tree that came to mind. And then on another set of post-it notes that I put to the other side of the room it said things like "The tinsel wrapped itself up around the tree like a snake and the star shined as bright as…" or something, so all this figurative language so everyone should have written *Christmas Tree* (Frank: II; 1-2).

His approach sees writing as something that can be taught in *sequential* stages. It is also possible to exemplify the effective features of writing and explore how

these have an impact on a reader or how they create a certain effect. These elements can be used (alongside any published marking criteria) to evaluate the success of the writing and make improvements. By using such an approach that has features of *assessment for learning* as part of the peer marking process, it establishes a view of what is good and effective writing set against a series of understood criteria. Indeed, this is consistent with Evans (2004) findings that *analytic* [sequential] trainees are often more concerned with assessing pupils than their *wholist* [global] counterparts.

Kathy (R-I-**W**) also focuses on language but places a much greater emphasis on the *intuitive* sharing of ideas and using such exploratory collaborations to help support effective writing. Like Frank, she frequently chooses teaching writing as examples of where she considers herself to have been most successful. Thus, she describes teaching a lower ability Year 7 class how to write a mystery story:

> I tried to make it as active as possible and had this one story as an example to show them how writers use like clues, hints to the reader and that was a really good resource. I found with that class if we did something over too many lessons they lost interest or had forgotten what they were doing by the next lesson. The prepared material was quite word and sentence level based. We did lots of drama, lots of moving around activities, we did the 'consequences' game just to help them build up sentences (Kathy: III; 1-2).

Like Frank, she also adopts a *sequential* approach to the learning but tries to ensure that each lesson is in itself as *active* and motivating as possible. She presents a model of a good piece of writing and uses this to look at features of the genre that will help the pupils with their own work. She also focuses on word and sentence level work which is challenging but is a necessary part of developing as a writer. In order to do this she uses physically *active* approaches such as drama and games to look at how a sentence can be built up *sequentially* from single units of meaning. Thus she adapts her lesson to the needs of the pupils so that there is a better match between her teaching style and their learning styles.

For English trainees with *intuitive* preferences, the approach they take often emphasises the involvement and engagement of the pupils, teaching style preferences which are noted in the literature (Perry and Ball, 2004; Veronica and Lawrence, 1997). Like Frank, Helen (**I**-Q) describes teaching figurative language successfully with a group of pupils whilst studying 'A Christmas Carol'. Whilst she also focuses on the technical features of writing, she is more interested in getting the pupils personally involved and engaged in the writing. She describes how:

> It was coming up to Christmas; we were doing 'A Christmas Carol'. The piece from the text was really lovely and it was something that they could relate to so I wasn't asking them to look at a piece of English they hadn't come across before, and they were writing about a Christmas pudding and they could adapt it to however they wanted it and I asked them to think about their favourite puddings. They were having quite a lot of fun telling me what their favourite desserts were (Helen: II; 1-2).

Consistent with her own preferences, she wants the pupils to be *intuitively* engaged in the learning. Importantly the text includes things that they already know about and recognise; they are asked for their own ideas and opinions and are given the opportunity to respond in a way of their own choosing.

Carl (A-**I**-Q) reports a strong preference for *intuitive* approaches alongside *active* and *sequential* modes of leaning. His approach to teaching a 'bottom set' Year 11 group as part of their GCSE original writing coursework is innovative and strongly influenced by his own combination of learning styles preferences. Valuing originality, he rejects the available scheme of work called 'The Assassin' and opts to design his own unit based around the September 11 attack and called 'The Falling Man'. The approach he plans is structured, builds up over a series of lessons and is focused more on engaging the students in the writing task, enabling them to understand the emotional context for the writing. It thus combines the need for a clear sequence of learning but a high level of personal involvement.

Louise's (**A-V**) strong *active* preference influences her teaching of narrative writing to a group of Year 8 pupils. She appears to take the opposite approach to the more *reflective*, *sequential* or *verbal* trainees who favour a structured

approach, centred on exemplification and modelling. For her the highly structured unit she is asked to teach is *'not easy to access'* and *'boring'*. Louise feels that the unit it is too long. What appears to be at the heart of the problem is the lack of any *active* element in the learning. She argues that they weren't:

> doing very much. It [the scheme of work] was looking at how other people did things. So I think that maybe, it's nice to see how others do it, but then sometimes how long do you have to watch somebody do something before you have ago yourself (Louise: III; 1-2).

She acknowledges the value of seeing a model of good writing, but is unconvinced about the amount of time one should spend on such activities before doing the task for oneself. In this evaluation of an approach that she feels was unsuccessful, Louise demonstrates that her attitudes are shaped to no small extent by her preference for *active* approaches to learning as documented in the literature (Felder and Solomon, 1993; Ginnis, 2004; Hoskin, 2009; Veronica and Lawrence, 1997).

The trainees' habitual approaches to the teaching of writing are influenced by their own learning styles preferences. Those trainees with *reflective*, *verbal* and/ or *sequential* preferences appear to favour the use of a structured genre approach that is methodical, focuses on language and sees writing as a process that can be taught in stages. Where trainees also report *intuitive* preferences, this leads to a concern with ensuring that the pupils are emotionally engaged and have opportunities to explore ideas before putting pen to paper. For one strongly *active* trainee structured and *sequential* approaches are seen to act as a barrier to successful learning as they fail to get the learner involved quickly enough in the writing process.

(f) The trainees' attitudes towards their own development as teachers

This section, explores, albeit briefly, the influence that the trainees' learning styles preferences have on their attitudes and concerns as they become teachers and their reflections on the ways in which they believe they have

changed or developed over the course of the PGCE year. Whittington and Raven (1995) note that teaching style is influenced by a complex array of values, beliefs, attitudes, aspirations, personal and social histories and cultures. More recently, Raffo and Hall (2006) concluded that a trainee teacher's predispositions and forms of cultural capital strongly influence the way they value their training and school placements.

It is difficult, however, to untangle the influence of the trainees' learning styles preferences from the way they experience both learning and teaching and the attitudes that they form during their PGCE year. For one thing, as the trainees undergo a process of development during the programme, they are likely grow personally, mature professionally and develop greater skills and confidence as teachers. It is also probable, that the *relatively stable* preferences they report at the beginning of the course may become more flexible and responsive to the needs of the pupils rather than their own. Indeed, Evans and Waring (2006) have suggested that, in general, all trainees become more *intuitive* over the course of their PGCE training year. However, given the fact that English trainees begin their training consistently favouring more *intuitive* approaches, this particular change may be more difficult to discern.

Debbie (I-**G**) feels that she is still very much on her journey of development and finds it difficult to assess what impact the PGCE has had on her. Interestingly she jokes that at times she wonders whether she has '*slow processing skills*', a potential characteristic noted almost word for word by Felder and Solomon (1993) in their description of the possible traits of *global* learners. She concludes that: '*I'm too much in the midst of it now to take a look from outside about how I've changed this year*'.

Carl (A-**I**-Q) feels that he has become '*a lot more organised*' an area he identified as a personal weakness at the start of the course. This tendency for *active* and/or *intuitive* learners to be more disorganized and find it difficult to meet deadlines has been suggested in the literature (Evans, 2004; Furnham

and Medhurst, 1995). He says he now plans ahead and, as a result, feels more confident in the classroom. He suggests that:

> If you are confident in front of the class I think pupils feel more comfortable. I feel I can focus more on individuals in the class. In the first phase I was more conscious of myself, always thinking 'am I saying this right?', 'what am I doing with this hand?' - focusing on every movement you're making whereas now you focus on the kids in the class (Carl: III: 5).

For Carl, the teacher is part of an *intuitive* and collaborative learning process; a partner in the learning. As such, it appears that his strong preference for *intuitive* learning exerts a predominant influence on his attitudes and development. Thus, it is fundamentally important that pupils sense his ease and confidence so that they can have confidence in him. Whereas early in the journey he was strongly focused on his own words and actions, his '*every movement*', he believes he can now focus on the needs of his pupils. This is consistent with the concerns and attitudes of *intuitive* and *active* trainees and teachers identified in the literature (Evans, 2004; Veronica and Lawrence, 1997).

For John (**R**-I-**V**-Q), a trainee with a combination of four style preferences, planning schemes of work has been his '*biggest challenge*'. To begin with, he found it difficult to let go and to stop planning. Thus at first he notes how:

> I found I was tweaking lessons up to 10.30 at night and also going on the internet, seeking resources, adapting resources and I also found that I was over planning lessons. I would end up with a huge number of resources, my time management would go in the lesson because I was trying to get too much in. I'd think 'I've done all of these so I am going to use them!' (John: III; 3).

Over time he has learnt to manage the potential excesses of his own meticulous planning. This concurs with Veronica and Lawrence's (1997: 167) suggestion that for the more *reflective* and *sequential* type of teachers '*thorough preparation and tight schedules often meant that there was little room for manoeuvre*'. However, John is still concerned about covering '*all of the objectives*' and is happiest when '*ticking the boxes and tracking assessment*'. Whilst nervous about the theme based curriculum he will be teaching at his NQT school, he maintains that '*as long as you keep with the learning*

objectives, make sure every lesson has an objective, and you've got the success criteria' it should work well. His desire to control the learning and ensure tangible outcomes is consistent with concerns raised by both *sequential* and *visual* trainees as noted by Evans (2004).

Some trainees have had to make changes to the way they teach. Greg (R-**I**), struggles throughout the course and is, for much of the time, at risk of failing. The changes he makes appear to relate to his own *reflective-intuitive (introverted)* personality and the way that he approaches teaching. He notes that during the course:

> I've had to develop a much more flexible way to reflect and take criticism and do something about it. Having input from other people and absorbing it is generally fine but that only gets so far, you have to actively try things out, take risks and fail and try again. I'm becoming a much more proactive and adventurous person in a way (Greg: III; 5).

Greg recognises that whilst *reflection* forms a central part of his makeup, he must employ it more flexibly. He identifies a need to take on board the criticism he receives but more importantly to take the initiative and act on that criticism. For as Felder and Solomon (1993) suggest, if one spends too much time thinking this can lead to a lack of action. Importantly, Greg understands the need to be more open to learning from others, *actively* trying out approaches that do not come naturally. Louise (**A**-**V**) undergoes a similar realization that she must at times play a role which at odds with her own *active* and *visual* preferences. Gradually she comes to utilise the more traditional approaches she rejected as a learner and adopts a more conventional persona. She notes that:

> I think I've become more 'this is what I expect and this is that you are going to do'. And if you don't do this, this is what is going to happen. So I think I've became better at laying down the guidelines, the rules and boundaries. I realised that unless you give people explicit instructions they won't do it. I think at the beginning I was like oh, hand this out and read it, and thought that they would read it. (Laughs) *of course*, they won't read it. (Louise: III; 5).

Whereas previously she had adopted the laid-back approach she valued as a learner, she now identifies the need for explicit instructions and consequences if work is not completed. She also suggests that she naively thought that pupils would just do the work if asked when in reality they need to be told. Such shifts

away from an individual's preferred approach to a more organisational approach to teaching and learning have been reported by Honigsfeld and Schiering (2004) and Evans (2004). However, whilst Evans and Waring (2006) suggest that trainees become more *intuitive* over time, Louise appears to have become more *sensing* and *sequential*. It could be, as Raven et al. (1993) suggest that there is a tension between what the trainee values as a learner and what is expected and/or utilised once teaching.

Unlike Greg whose self-analysis focuses on his gradual shift from introversion to extroversion, Louise evaluates her professional and personal development in a more figuratively *active* manner that reflects her own learning styles preferences. She expresses herself in physical metaphors and highly *active* language, noting that the experience of becoming a teacher has been a *'rollercoaster'* and that the challenge has been:

> Keeping hold of all of the balls, learning something and then thinking right I'm confident with that, then going onto something else and thinking I'm confident with that and making sure things don't slip. It's the small things that put everything together. The teaching, the lesson planning, I feel fine with that, the marking, but it's the 'oh my god I've got 10 minutes to phone someone's parents. I've got to get all this done'. I've got a to-do list that goes on four pages [laughs]. (Louise: III; 2).

Interestingly, she views teaching as a set of practical activities, a menu of *'to dos'* which can be listed and ticked off when they are completed. The challenge comes not from the teaching or marking but the number of other responsibilities that have to be actioned.

It is difficult to conclude with any certainty that the trainees' learning styles preferences strongly influence their developmental concerns as becoming teachers given the limited evidence here. However, it appears as if to some extent these preferences influence the way trainees frame their development and reflect on the areas they where they have improved or had to change. For some trainees, the language they use to describe such change also appears to be consistent with their preferences. Some trainees also feel that they have had to change their approach to teaching and learning, shifting away from their own preferred ways of learning, so as to become more effective teachers.

Chapter 6: Conclusions and recommendations

6.1 Introduction

This chapter draws together the evidence obtained from the quantitative survey of secondary PGCE trainees (n=316) collected using Felder and Solomon's (1994) Index of Learning Styles and the qualitative analysis of data gathered from the semi-structured interviews undertaken with the twelve English PGCE trainees.

It offers a number of conclusions for each of the two research questions. The chapter then considers the implications of these findings for theory, policy and practice, making a number of recommendations for policy makers and providers of initial teacher education, Newly Qualified Teacher (NQT) induction and continuing professional development. It also outlines several limitations of the study and suggests a number of future quantitative and qualitative research studies that would develop this work further.

6.2 (RQ1): to what extent do trainee teachers on a secondary PGCE course self-report learning styles preferences and are these affected by their subject specialisms?

In relation to the first research question posed, the quantitative survey set out to identify the extent to which trainees on a secondary PGCE programme reported learning styles preferences and whether these preferences differed according to their secondary specialism. The data indicates strongly that most of this group of trainee teachers (92%) consistently report moderate or strong learning styles preferences in response to the ILS. Moreover, in each cohort and

across all subjects, trainees report the full range of preferences as described by the four ILS dimensions discussed in Chapter 2.

The majority of secondary trainees (68%) report two or more learning styles preferences. Irrespective of subject specialism, few trainees (5-10%) report no preferences, whilst only a very small proportion of trainees (3-5%) report preferences across all four dimensions. Given the multifaceted nature of a PGCE training programme, in which individuals encounter a variety of teaching methods across a range of settings, it is likely that trainees will find some aspects of their initial teacher education better suited to their preferences than others. In turn, learning styles preferences may affect the quality of their experience of learning to teach and/or act as a barrier to their successful learning and development. Moreover, as studies suggest, the trainees' learning styles preferences may also influence the way they teach, possibly making them more resistant to styles of teaching that are at odds with their own favoured methods of learning and/or less sensitive to the needs of their pupils (Evans and Waring, 2006; Honigsfeld and Schiering, 2004; Rosenfeld and Rosenfeld, 2004; Veronica and Lawrence, 1997).

There are consistent differences between the most frequently reported learning styles preferences of secondary trainees in different core curriculum subject disciplines. This is consistent with and adds helpfully to previous research (Cavas, 2010; Perry and Ball, 2004; Veronica and Lawrence, 1997; Woodhouse and Jarvis, 2001).

Mathematics trainees (n=61) and science trainees (n=93) consistently report leaning styles preferences for *visual* (59% and 60%) and *sensing* (41% and 44%) approaches to learning. These can be seen as characteristic or 'typical' learning styles preferences. By contrast, few mathematics or science trainees report a preference for *verbal* modes of learning (3 and 5%). This can be considered an uncharacteristic or 'atypical' preference. The data also indicates that those mathematics and science trainees in this study who expressed a

preference are more likely to favour *active*, *sensing*, *visual* and *sequential* styles of learning.

English trainees, on the other hand, consistently report moderate and strong preferences for *intuitive* approaches to learning (53%). This can be considered a 'typical' learning styles preference. In addition, and unlike their mathematics and science counterparts, 29% report a preference for *verbal* approaches to learning. Whilst the proportion of English trainees who favour this mode of learning varies between cohorts (18%-43%) the figure is greater in each cohort than the proportion favouring *visual* approaches. It is also greater, in all cohorts, than the corresponding figure for mathematicians or scientists. Thus, whilst not a 'typical' learning styles preference it represents a noteworthy characteristic of English trainees. This variation between cohorts may be affected by the variety in degree subjects studied and the potentially wider spread of prior experiences. Thus, trainees who have studied a more traditional literature degree may differ from those who have studied drama, film, media or philosophy. However, the evidence for this is anecdotal at best. English trainees only rarely report a preference for *sensing* approaches to learning (3%). Unlike trainees in mathematics and science, this is their least favourite style of learning and can be confidently considered 'atypical'. Whilst not statistically significant, those English trainees who reported a preference are more likely to favour *reflective*, *intuitive*, *verbal* and *sequential* preferences.

It can be concluded that whilst the majority of trainees report a number of learning styles preferences these differ in noteworthy respects between trainees from different subject disciplines. In relation to the *sensing-intuitive* and the *visual-verbal* dimensions, English trainees are, as Woodrow and Jarvis (2001) suggest, polar opposites of their mathematics and science peers. Indeed, it is only on the *sequential-global* dichotomy that all secondary trainees are similar. Even so, it is worth noting that the proportion of English trainees that favours *sequential* approaches is only marginally greater (1%) than the proportion that favours *global* approaches. Although not statistically significant, this figure is 9% in mathematics and 4% in science.

6.3 (RQ2): to what extent and in what ways do the learning styles preferences of English trainees impact on their experience of/and attitudes towards learning to teach?

The data collected from the semi-structured interviews and analysed qualitatively indicates that the learning styles preferences of the trainee English teachers, whilst only part of a complex blend of influences, are relatively stable. They play an important role in shaping the way they experience their learning and development as teachers and inform the approaches they take when teaching. Indeed, trainees bring with them a number of established attitudes and predispositions towards learning and teaching that can be traced back to their prior educational experiences. Nevertheless, it is important to emphasise that a single learning style preference rarely appears to dominate. Rather it is the combination or blend of learning styles preferences, working together, that appear to exert the greatest influence.

Previous studies have asked whether the learning styles preferences of trainee teachers influence their choice of subject discipline or if the study of a particular subject leads to the development of preferences for certain approaches to learning (Evans, 2004; Veronica and Lawrence, 1997). It is not possible to conclude, on the basis of this study, whether the English trainees' learning styles preferences are innate or stem from the styles of teaching and learning they encountered when at school, college and university. However, it is noteworthy that trainees consistently judge their prior experience of lessons and teachers in terms of their own preferences, often valuing most highly those approaches that correspond to their self-reported preferences. Moreover, whilst some trainees appear to successfully manage a range of approaches, including those which they judge less favourable, for others the apparent mismatch between the prevailing styles of teaching and their preferences as learners presents itself as a clear barrier to their learning.

This notion of 'matching' and 'mismatching' has received considerable attention in the literature, with opinions divided. This was discussed in Chapter 2. Whilst the evidence gathered from the English trainees' testimonies does not warrant the championing of what Pritchard (2005: 64) calls a *'slavish'* matching of styles, it indicates that trainees favour particular approaches during their PGCE course and judge some modes of learning more effective in helping them to learn and develop as teachers. For most, lectures are the least effective means of learning and this is sometimes felt most keenly by those who express a preference for *active* and/or *intuitive* approaches. For these trainees, the lectures are informative but, crucially, lack personal or physical involvement. On the other hand, seminars and group work are seen by many to offer critical opportunities to discuss, contextualise and to engage on a practical and emotional level with learning. Such opportunities appear particularly important for those English trainees with *active*, *intuitive*, *verbal* and/or *global* preferences. Whilst seminars and group tasks are generally valued, these are not without there pitfalls. For trainees who express *reflective* preferences they can feel too hurried, providing insufficient time to think about and consider the learning in depth.

Consistent with the literature, trainees with *sequential* preferences appreciate structure and organisation; they like being given model approaches and solutions to commonly experienced problems but get frustrated when parts of the course do not seem to link and/or procedures are not followed. Trainees with *global* preferences, by contrast, appear more interested in grasping the bigger educational picture, placing themselves within the context of current policy and practice. They value authenticity and, on occasions, this can create difficulties when theory is perceived to differ from what is seen taking place in schools and classrooms. This can be particularly acute when observing teachers at work during their school placements. In general, trainees with *reflective*, *visual* and/or *sequential* preferences tend to get the most out of such opportunities. This is because observing lessons allows them to see and reflect on different approaches and to assimilate models of good practice. This appears

less important to trainees with *active* or *global* preferences, who value quicker involvement in the on-the job aspects of the training.

The role of the subject mentor is only explored briefly. However, the trainee's testimonies indicate that they respond most positively to those supervisors whose mentoring style appears to match their learning styles preferences. Nevertheless, trainees also recognise that different styles of mentoring offer greater challenge; they prompt them to move beyond their comfort zone and, whilst uncomfortable, can be pivotal in helping them to develop as teachers.

The qualitative data gathered via the trainee interviews suggests that there is a consistent link between an individual's learning styles preferences and their preferred teaching approaches, particularly in the early stages of their training. This is consistent with the literature (Evans, 2004; Perry and Ball, 2004; Veronica and Lawrence, 1997).

Initially, trainees appear to adopt methods that play to their perceived strengths, often replicating those approaches that they described as successful when recalling their own education. Thus *active* trainees tend to favour practical, physical and tactile approaches whilst *reflective* trainees favour discussion and analysis. *Intuitive* trainees consistently favour collaborative and exploratory approaches that emphasise contextual relevance and seek to engage pupils on an emotional level in the learning. Those trainees with *sequential* (and *sensing*) preferences consistently focus on the importance of careful planning and structured organisation of the learning material and activities. Whilst equally pupil-centred, they see themselves as providers of knowledge and information and understand their role as teachers in terms of supporting pupils to acquire this learning. Trainees with *global* preferences, on the other hand, appear to want pupils to tackle learning from the outside; they present pupils with a wider perspective and encourage greater ownership of the learning.

The literature suggests that trainee and practising teachers should gain a better understanding of their own learning styles preferences in order to improve their practice and increase their sensitivity to the diverse groups of learners they teach (Evans and Waring, 2006; Nielsen, 2008; Honigsfeld and Schiering, 2004; Rosenfeld and Rosenfeld, 2004; Veronica and Lawrence, 1997). This study only briefly considers the trainees' attitudes to their own personal and professional development over the course of the PGCE. Moreover, it did not explicitly ask trainees to reflect on their understanding of learning styles. Nevertheless, whilst the evidence suggests that trainees are often too caught up in the present to fully evaluate the extent to which they have changed, their testimonies demonstrate that some have adopted approaches that are contrary to their natural inclinations. It is not possible, however, to say whether such changes are beneficial (have made them better teachers) or have helped them to adapt to the prevailing modes of teaching and learning encountered in the schools where they have taught.

6.4 Implications for theory, policy and practice

The study presented here offers a number of implications for theory, policy and practice.

The research suggests that the ILS is a valid and practical tool for identifying the learning styles preferences of trainee teachers. The four style dimensions have strong face validity and are expressed in terms that are relevant to teachers and teacher educators. The trainees in the interview group recognised the learning styles preferences that had been identified as valid. This is consistent with the literature (Felder and Spurlin, 2005). All eight learning styles were represented across the different cohorts, subject specialisms and age phases, suggesting that none of the style constructs are redundant. This concurs with the findings of Litzinger, Lee, Wise and Felder (2007). As the majority of individuals in the study report two or more learning styles preferences, there is now a need to look more closely at the potential

relationship between different styles and to investigate the potential impact of particular combinations of learning styles preferences on a trainee's learning and development. Moreover, the ILS style dimensions, with their various analogues, could provide a convenient gateway into the study of other influential learning styles theories and constructs.

Although only one factor affecting a trainee teacher's learning and development, the research findings indicate that learning styles preferences are a relatively stable and influential piece in an individual's make-up. Although research into the learning styles of trainee teachers remains scare, recent studies have begun to explore the issue more thoroughly (Cavas, 2010; Peker and Mirasyedioglu, 2008) This study adds considerable weight to the notion that English trainees differ in key respects from their mathematics and science counterparts. It also poses important questions about the apparent division between *sensing* and *intuitive* approaches to learning that some commentators have identified as a key educational battleground (Perry and Ball, 2004).

At the time of writing, the coalition government's white paper, 'The Importance of Teaching' (DfE, 2010) proposes radical changes to initial teacher education. Its proposals could spell the end of HEI led teacher education in favour of school-based models. Policy makers should take care when seeking to dismantle existing models of training that the alternatives they suggest consider the influence of learning styles preferences. Whilst HEI based PGCE programmes do not suit all learners it is equally unlikely that a school based 'apprenticeship' model will meet the needs of different types of trainee. As the research indicates, trainees with different learning styles preferences value and respond to a range of approaches both within and across institutions. For the most part, they feel they develop best when their learning styles needs are met and for some their progress is hampered when there is a prolonged mismatch. If trainees are to get the best out of school based placements more will need to be done to identify potential styles differences and to ensure that there is a balance of experience that allows trainees to play to their strengths whilst being

challenged to develop a wide repertoire of teaching and learning styles, unfettered by organisational dogma and/or bad practice.

However, whilst learning styles preferences offer a practical and potentially valuable means of improving the quality of a trainee's learning and development, policy makers should not use such an approach to assess an individual's suitability for teaching. Learning styles preferences indicate a consistent predisposition to certain approaches to learning and teaching but there is no ideal style or style combination for a teacher. All have their strengths, all their potential pitfalls. What matters is that trainee teachers are made aware of their own tendencies and the impact this might have on their development, their professional practice and the experience of those they teach. In this respect, it is worrying, that psychometric tests developed by Professor Debra Myhill (Dean of the graduate school of education at Exeter University) are set to be used as part of future teacher recruitment processes (TES, January 7, 2011). Having been piloted at Edge Hill University and London University's Institute of Education, the diagnostic tool will be rolled out from 2012 as a means of identifying those prospective teachers who are or are not suited to a career in education. This would make England the only country in the world to use such a system in initial teacher training.

Whatever the future holds teacher trainers and ITE programmes ought to give time to the critical examination of a range of learning styles theories and instruments. Even the most ardent of critics recognise the value of such activities (Coffield at al., 2004; DEMOS, 2005). Trainees should, therefore, be encouraged to reflect on their own learning journies and histories as a means of reflecting on preferences and predispositions for particular styles of learning and teaching. Trainees should also be introduced to a range of learning styles theories in order to provide them with an informed view of learning styles research, its uses and misuses in the classroom. In this way they will not fall into the 'trap' of seeing styles as a single limiting idea, such as the tendency to view VAK as *the* learning styles model (Evans and Waring, 2006; Franklin, 2006). Rather, trainees should be informed of the critical debate around style

research and to consider the pitfalls and potential benefits of using such concepts and tools to inform their own work with learners. They should also be encouraged to play to their strengths but not be afraid to develop those aspects of practice that they are less comfortable with.

In schools, there are benefits to be had for school based mentors, NQT induction tutors and those who are responsible for planning INSET and CPD. Whilst it is not always possible or desirable to match placement trainees with supervisory teachers, it would be helpful for mentors to have an awareness of their own and their mentee's learning styles preferences. This knowledge would provide the mentor with non-judgemental indicators about a trainee's predispositions that could help plan better for their development and ensure that a balance is struck between support and challenge. Such an approach would be equally beneficial for induction tutors and NQTs. In this regard, induction tutors might use this information to broaden a teacher's experience of a range of learning and teaching styles whilst tailoring development activities so that they better suit the way the individual learns.

Finally, given the differences between the learning styles preferences of teachers in different disciplines, there is more to be gained from identifying the learning styles preferences of school staff than their pupils. As much school based INSET is still a one size fits all model, knowledge of the learning styles of staff could help to tailor both whole staff and group experiences more carefully. Furthermore, whole staff awareness of their own and others' learning styles preferences and how these might differ according to their subject specialisms might increase their level of critical reflection about approaches to learning and teaching, provide a school wide language which can be used to discuss learning in a non-judgemental way, and increase sensitivity to the needs of different learners without potentially harmful labelling.

6.5 Limitations of this study

This study attempted to respond to recent criticisms about learning styles research that were outlined in Chapter 2 (Coffield et al, 2004; Demos, 2005). There are, however, a number of limitations to both the quantitative and qualitative aspects of the study presented here.

Firstly, although comparable to other published studies, the sample size for the quantitative survey is relatively small and limited to one institution. Given the fact that the study is focused on secondary PGCE trainees in the core subjects of English, mathematics and science, it would have been helpful to have surveyed similar groups at a second ITE provider.

Secondly, whilst a conscious choice was made to analyse the questionnaire using descriptive statistics only, it would have been useful to gather a wider range of variables to support more detailed analysis and to identify any statistical significance. Thus, it would have been useful to collect prior achievement data, such as average points score (APS) for GCSE and 'A' level and/or degree classifications. It would have also been helpful to collect information on degree subjects so as to explore any potential relationship that this factor might have with learning styles preferences. Whilst this information was collected from 2007 onwards, its incomplete nature means that only anecdotal conclusions can be drawn. It would have also been useful to survey all (and at least the interview) trainees at the end of the process in order to measure any change in their learning styles preferences.

The sample of trainees who were interviewed during the year was also small (n=12), although again comparable with the relatively few studies of trainees' learning styles preferences where such qualitative methods have been used. Moreover, constraints to the researcher's time and resources meant that comparisons could not be made across subject disciplines without the risk of diminishing the richness of the findings. The small size of the sample was also compromised when two trainees withdrew from the PGCE course after the

second interview. Whilst it may have been wise to plan for this eventuality by selecting a larger initial sample, this would have put additional and unwarranted pressure on the researcher's time.

Finally, whilst the three stage interview process worked well and enabled the researcher to track the experience of the trainees across the year, the interview schedules were perhaps too general and could have been focused more fully on the changes experienced by trainees over time. Moreover, whilst the interviews were successful in allowing the trainees to reflect honestly and freely on their experiences, the wealth of detail produced was exceptionally time consuming to transcribe and code and led to highly complex analysis that was difficult to capture in a thesis of this length. Much rich and supporting evidence was left out with only the most pertinent examples retained. However, throughout every effort was made to ensure that the researcher's assumptions were questioned and that any contrary examples were retained. Fewer interviews (and indeed a smaller sample) may have resulted in sharper analysis of the reduced pool of data. However, this would also have narrowed range of experiences described and, ultimately, compromised the ability of the researcher to identify meaningful relationships between learning styles preferences, the trainees' learning and development as teachers and their behaviour and professional practice in the classroom.

6.6 Future research

The findings presented in this thesis suggest that further research is called for. It is possible to identify a number of future studies that could enhance the existing literature and contribute to the development of policy and professional practice.

Quantitative studies using larger size samples across other ITE training providers are needed to confirm or dispute the findings presented here. Such surveys could provide a more statistically significant picture of the 'typical' and

'atypical' learning styles preferences of trainees in different subject disciplines. In addition, this research could usefully look at the potential relationships between the different ILS style dimensions in order to provide greater understanding of particular blends and combinations of learning styles preferences. Longitudinal surveys are also needed to identify whether the learning styles preferences that trainees report at the start of their PGCE change, strengthen or diminish over time. In order to achieve this, studies will need to re-administer the ILS questionnaire at intervals during training, at the end of the NQT year and into the trainees' second year of teaching. There is also much rich research to be had in mapping the potential relationship between the trainees' prior academic achievement, their subject background and rates of course completion and/or the progress they make as teachers. For researchers and providers of teacher training it would also be valuable to survey the learning styles of the mentors who work with trainees as part of the provider's partnership with schools.

All of these quantitative surveys could be used to support detailed qualitative studies. Alongside further studies of English trainees, there is a need for similar research into the experience of mathematics and science specialists as they train to become teachers. Future research could also examine the experiences of trainees within subjects with 'typical' and/or 'atypical' learning styles preferences to see whether one type of trainee develops more or less successfully. Alternatively, studies could explore the experience of trainees across subject disciplines but with the same learning styles preferences to see whether it is the preference or the subject discipline that exerts most influence. By mapping the learning styles preferences of both trainees and their mentors it would also be valuable to track the experience of both trainee and trainer across the PGCE year to see whether, when and to what extent a match or mismatch between mentor and trainee influences the successful learning and development.

Ideally, all qualitative studies need to take place over a longer period of time to ascertain the long term influence of learning styles preferences and whether the

predispositions trainees begin with remain with them into their teaching career. Moreover, whilst qualitative interviews provide the researcher with a rich source of evidence, future mixed methods studies would benefit greatly from comparing data about learning styles preferences, with the trainees' (and possible trainer's) testimony *and* evidence taken directly from observation of the trainees' teaching.

6.7 Concluding remarks

At times, when carrying out research into learning styles, the researcher feels as if they are tiptoeing cautiously through a minefield of potential misunderstanding and moral outrage. Critics often target their derision at particular learning styles theories, mock those who claim that an understanding of learning styles can impact positively on the progress made by learners and abhor what they see as the straitjacketed labelling of individuals as being confined to 'this' or 'that' learning styles preference. Such scepticism is understandable and healthy but the vehemence with which it is sometimes expressed is often unwarranted and unfair. For, as Felder (2010:5) rightly states, although the validity of learning styles models are routinely questioned:

> the most common learning styles models have been used frequently and successfully to help teachers design effective instruction; help students better understand their own learning processes; and help both teachers and students realise that not everyone is like them and the differences are often worth celebrating.

The research findings presented here offer just such a positive, affirming and non-constraining perspective on the potential uses of learning styles. They note, without judgement or stigma, the differences that are apparent between the learning styles preferences of trainee teachers from different disciplines. They argue that, whilst learning styles preferences can be seen to influence the way trainees experience their training and development as teachers, no one learning styles preference is 'ideal' or more 'desirable' than any other. Rather, learning styles preferences are just one more important element of learner diversity.

The educational landscape is changing rapidly and the future for schools and providers of initial teacher education is uncertain. Whilst feigning a desire to widen choice, policy makers appear set on fixed models of what they believe work best in schools and what characteristics and/or qualifications are most suited to making a 'good' teacher. It is these views that are constraining and potentially harmful and not the moderate claims made by learning styles researchers. Given this context, the research presented here, which recognises and values the differences between learners, may now be of even greater value than hoped for at the outset of this researcher's own learning journey.

Appendices

Appendix A: a brief contextual statement about the researcher

Over the last 17 years I have attended (as English and drama teacher, subject leader, senior leader, local authority adviser and Her Majesty's Inspector) innumerable training days and courses, offered by external providers or as part of in-house professional development days.

As a second in department and then subject leader (1996-2003), I was a mentor for a number of trainee teachers from three different HEIs undertaking PGCE, GTP (Graduate Teacher Programme) and OTT (Overseas Trained Teacher) routes.

As a senior leader and professional mentor in a secondary school (2003-2005), I was responsible for trainee teachers, NQTs and the induction of new members of staff. During this time I oversaw whole school in-service training (INSET) programmes and contributed to city-wide professional development activities.

As a local authority adviser (2005-2008) I worked extensively with schools and providers of initial teacher education, delivering whole staff sessions, departmental training, subject-specific workshops for PGCE trainees, and one-to-one coaching for individual teachers.

In my current role as one of Her Majesty's Inspectors (2008 onwards) I have had the privileged position of visiting many schools (primary and secondary) and providers of initial teacher education (both HEI led and school centred). At the time of submitting this thesis, I have undertaken ten inspections of ITE providers under the 2008-2011 framework (Ofsted, 2008).

As a matter of interest, my own learning styles preferences according to the ILS are: Reflective (5), **Intuitive** (11), Verbal (7), and **Global** (9). Strong

preferences are given in bold.

Appendix B: The Index of Learning Styles Questionnaire and Scoring Sheet

INDEX OF LEARNING STYLES

DIRECTIONS

Enter your answers to every question on the ILS scoring sheet. Please choose only one answer for each question. If both "a" and "b" seem to apply to you, choose the one that applies more frequently.

1. I understand something better after I
    a) try it out.
    b) think it through.

2. I would rather be considered
    a) realistic.
    b) innovative.

3. When I think about what I did yesterday, I am most likely to get
    a) a picture.
    b) words.

4. I tend to
    a) understand details of a subject but may be fuzzy about its overall structure.
    b) understand the overall structure but may be fuzzy about details.

5. When I am learning something new, it helps me to
    a) talk about it.
    b) think about it.

6. If I were a teacher, I would rather teach a course
    a) that deals with facts and real life situations.
    b) that deals with ideas and theories.

7. I prefer to get new information in
    a) pictures, diagrams, graphs, or maps.
    b) written directions or verbal information.

8. Once I understand
    a) all the parts, I understand the whole thing.
    b) the whole thing, I see how the parts fit.

9. In a study group working on difficult material, I am more likely to
    a) jump in and contribute ideas.
    b) sit back and listen.

10. I find it easier
    a) to learn facts.
    b) to learn concepts.

11. In a book with lots of pictures and charts, I am likely to
    a) look over the pictures and charts carefully.
    b) focus on the written text.

12. When I solve math problems
    a) I usually work my way to the solutions one step at a time.
    b) I often just see the solutions but then have to struggle to figure out the steps to get to them.

13. In classes I have taken
    a) I have usually gotten to know many of the students.
    b) I have rarely gotten to know many of the students.

14. In reading nonfiction, I prefer
    a) something that teaches me new facts or tells me how to do something.
    b) something that gives me new ideas to think about.

15. I like teachers
    a) who put a lot of diagrams on the board.
    b) who spend a lot of time explaining.

16. When I'm analyzing a story or a novel
    a) I think of the incidents and try to put them together to figure out the themes.
    b) I just know what the themes are when I finish reading and then I have to go back and find the incidents that demonstrate them.

17. When I start a homework problem, I am more likely to
    a) start working on the solution immediately.
    b) try to fully understand the problem first.

18. I prefer the idea of
    a) certainty.
    b) theory.

19. I remember best
    a) what I see.
    b) what I hear.

20. It is more important to me that an instructor
    a) lay out the material in clear sequential steps.
    b) give me an overall picture and relate the material to other subjects.

21. I prefer to study
    a) in a study group.
    b) alone.

22. I am more likely to be considered
    a) careful about the details of my work.
    b) creative about how to do my work.

23. When I get directions to a new place, I prefer
    a) a map.
    b) written instructions.
24. I learn
    a) at a fairly regular pace. If I study hard, I'll "get it."
    b) in fits and starts. I'll be totally confused and then suddenly it all "clicks."

25. I would rather first
    a) try things out.
    b) think about how I'm going to do it.

26. When I am reading for enjoyment, I like writers to
    a) clearly say what they mean.
    b) say things in creative, interesting ways.

27. When I see a diagram or sketch in class, I am most likely to remember
    a) the picture.
    b) what the instructor said about it.

28. When considering a body of information, I am more likely to
    a) focus on details and miss the big picture.
    b) try to understand the big picture before getting into the details.

29. I more easily remember
    a) something I have done.
    b) something I have thought a lot about.

30. When I have to perform a task, I prefer to
    a) master one way of doing it.
    b) come up with new ways of doing it.

31. When someone is showing me data, I prefer
    a) charts or graphs.
    b) text summarizing the results.

32. When writing a paper, I am more likely to
    a) work on (think about or write) the beginning of the paper and progress forward.
    b) work on (think about or write) different parts of the paper and then order them.

33. When I have to work on a group project, I first want to
    a) have "group brainstorming" where everyone contributes ideas.
    b) brainstorm individually and then come together as a group to compare ideas.

34. I consider it higher praise to call someone
    a) sensible.
    b) imaginative.

35. When I meet people at a party, I am more likely to remember
    a) what they looked like.
    b) what they said about themselves.

36. When I am learning a new subject, I prefer to
    a) stay focused on that subject, learning as much about it as I can.
    b) try to make connections between that subject and related subjects.

37. I am more likely to be considered
    a) outgoing.
    b) reserved.

38. I prefer courses that emphasize
    a) concrete material (facts, data).
    b) abstract material (concepts, theories).

39. For entertainment, I would rather
    a) watch television.
    b) read a book.

40. Some teachers start their lectures with an outline of what they will cover. Such outlines are
    a) somewhat helpful to me.
    b) very helpful to me.

41. The idea of doing homework in groups, with one grade for the entire group,
    a) appeals to me.
    b) does not appeal to me.

42. When I am doing long calculations,
    a) I tend to repeat all my steps and check my work carefully.
    b) I find checking my work tiresome and have to force myself to do it.

43. I tend to picture places I have been
    a) easily and fairly accurately.
    b) with difficulty and without much detail.

44. When solving problems in a group, I would be more likely to
    a) think of the steps in the solution process.
    b) think of possible consequences or applications of the solution in a wide range of areas.

ILS SCORING SHEET

1. Put "1"s in the appropriate spaces in the table below (e.g. if you answered "a" to Question 3, put a "1" in Column A by Question 3).

2. Total the columns and write the totals in the indicated spaces.

3. For each of the four scales, subtract the smaller total from the larger one. Write the difference (1 to 11) and the letter (a or b) for which the total was larger on the bottom line. For example, if under "ACT/REF" you had 4 "a" and 7 "b" responses, you would write "3b" on the bottom line under that heading.

■ On the next page, mark "X"s above your scores on each of the four scales.

ACT/REF			**SNS/INT**			**VIS/VRB**			**SEQ/GLO**		
Q	a	b	Q	a	b	Q	a	b	Q	a	b
1	___	___	2	___	___	3	___	___	4	___	___
5	___	___	6	___	___	7	___	___	8	___	___
9	___	___	10	___	___	11	___	___	12	___	___
13	___	___	14	___	___	15	___	___	16	___	___
17	___	___	18	___	___	19	___	___	20	___	___
21	___	___	22	___	___	23	___	___	24	___	___
25	___	___	26	___	___	27	___	___	28	___	___
29	___	___	30	___	___	31	___	___	32	___	___
33	___	___	34	___	___	35	___	___	36	___	___
37	___	___	38	___	___	39	___	___	40	___	___
41	___	___	42	___	___	43	___	___	44	___	___

Total (sum X's in each column)

ACT/REF		**SNS/INT**		**VIS/VRB**		**SEQ/GLO**	
a	b	a	b	a	b	a	b
___	___	___	___	___	___	___	___

(Larger – Smaller) + Letter of Larger (see below[*])

_____   _____   _____   _____

Appendix C: Learning Styles Profiles for Interview Group*

	Gender	Age	Active-Reflective	Sensing-Intuitive	Visual-Verbal	Sequential-Global
Annie	F	22		Sensing		**Sequential**
Beth	F	21	N	N	N	N
Carl	M	21	Active	**Intuitive**		Sequential
Debbie	F	24		Intuitive		**Global**
Euan	M	35			Visual	**Global**
Frank	M	21			**Verbal**	Sequential
Greg	M	22	Reflective	**Intuitive**		
Helen	F	22		**Intuitive**		Sequential
Izzie	F	28	Reflective	**Intuitive**		
John	M	29	**Reflective**	Intuitive	**Visual**	Sequential
Kathy	F	21	Reflective	Intuitive	**Verbal**	
Louise	F	23	**Active**		**Visual**	

* Strong preferences in bold. N = no preference.

Appendix D: Interview Schedules

Interview a: *Sept '06*	Interview b: *Jan '07*	Interview c: *June '07*
1. What are your earliest memories of learning? 2. Tell me about your experience of learning at primary school? 3. Tell me about your experience of learning at secondary school? 4. Tell me about your experience of learning in the sixth form? 5. Tell me about your experience of learning at University? 6. Tell me about something you have learned successfully? 7. Tell me about something you have not been successful at learning? 8. Tell me about you best teachers? 9. Tell me about your reasons for wanting to do the PGCE? 10. What are you looking forward to this year? 11. What are you concerned/apprehensive about? 12. What have you found most helpful during this first university based part of the course? 13. What have you found least useful about this university based phase of the course?	14. Tell me about the highlights of your first placement? 15. Tell me about the low points of your first placement/ 16. Tell me about a lesson (or series of lessons) that you taught successfully? 17. Tell me about a lesson (or series of lessons) that you taught which weren't successful? 18. Tell me about your relationship with your mentor? 19. What or who else has had a significant impact on you during your first phase experience? 20. Is there anything else that you'd like to add?	21. Could you compare your two placement schools? 22. Tell me about a lesson (or series of lessons) that you taught successfully? 23. Tell me about a lesson (or series of lessons) that you taught which weren't successful? 24. What have been the biggest challenges you have faced across the year in terms of your development as a teacher? 25. What have been the most rewarding aspects of the year? 26. What or who else has had a significant impact on you during the year in terms of your development as a teacher? 27. Tell me about any INSET or training opportunities that you have found useful (during the year). 28. Tell me about any INSET or training opportunities that you have not found useful (during the year). 29. What do you do well/best as a teacher and/or teacher of English? 30. What do you want to focus on next year in terms of your development as a teacher? 31. How do you think you have changed over the year? 32. Tell me about the school that you will be working in next year? 33. What are you looking forward to most about next year? 34. Where do you see yourself in a few years' time? 35. What do you think makes a good teacher/teacher of English? 36. Is there anything else that you would like to ask?

Appendix E: Informed consent forms (questionnaire and interviews)

The Index of Learning Styles (ILS)
Informed written consent form

Who am I?

My name is Chris Wood. I am currently English Adviser working for XXXXXXXXXX School Improvement Service. In a former life I was a head of English and then an assistant headteacher with responsibility for Initial Teacher Training (ITT) and Continuing Professional Development (CPD).

What am I doing?

As part of my doctoral research, I am interested in comparing the preferred learning styles of trainee teachers in the core subjects of English, Maths, and Science and in other post-graduate training courses. I want to find out if these preferences have any impact on the way trainees experience the process of learning to teach.

What is the Index of Learning Styles?

Initially designed for engineers, the Index of Learning Styles is a tool that measures learning preferences on four 'bipolar' scales.

These are described in detail on your green handout. You can also complete the questionnaire on-line: http://www.engr.ncsu.edu/learningstyles/ilsweb.html.

If you want to find out more you can access information at:
http://www4.ncsu.edu/unity/lockers/users/f/felder/public/ILSpage.html

What do I have to do?

All you have to do is answer **a** or **b** to a series of 44 short questions and then use the scoring sheet to complete the report form at the back. You might find this frustrating as you are 'forced' to choose between two options but please try to respond as instinctively as possible. Please keep a copy of your results (the yellow handout) so that you can find out more about your preferences.

What's in it for me?

Aside from the novelty of assessing your own learning preferences, research suggests that **effective teachers are sensitive to and act upon the various learning preferences of those they teach**. Understanding the impact of your own learning preferences is, I believe, an important step in this process. Please ask if you would like to find out more about learning styles research.

Is there anything else I should know?

Your participation is entirely voluntary and you can withdraw at any stage. If you do not wish to participate but are interested in finding out about your learning styles preferences, please fill in the questionnaire but keep your results when they are handed in at the end of the session.

The results of the ILS are in **no way part of your formal assessment** and **all results are treated with the strictest of confidence**. It will not be possible, therefore, to identify individual respondents in any subsequent discussion or publications.

Pease do not hesitate to ask at any stage if you have questions, concerns or comments about this research. I will be very happy to try and answer them.

Chris Wood

I have read and understand the information above and give consent for the results of my ILS to be used in academic research:

Signed……………………………………………………………..…………………………….

Date…………………………………………………………..………………………….

I will be following up this research with a small number of in-depth interviews. Please indicate below if you are interested in participating in this phase of the project.

I am happy to be interviewed in the future about my experiences of teaching:

Yes   No   *(please circle)*

Interview Consent Form

Thank you for agreeing to be interviewed as part of this research project.

Please read the following:

- Participation on the interviews is voluntary and does not form party of your PGCE course

- All material will be treated confidentially; it will not be possible to identify you as an individual from and subsequent writings or publications

- Interviews will be digitally recorded so that your experiences can be captured accurately

- The recordings will not be shared with a third party

- Transcripts will be made of the interviews and these will be used as data in the research project

- You may have copies of the transcripts if you wish

- Recordings will be deleted once the transcript has been made

- You may withdraw from the project at any time – recordings and transcripts will be destroyed

- You will be invited to take part in further interviews towards the middle and end points of your PGCE year.

I have read and understand the items detailed above and have had an opportunity to ask further questions. I give informed consent to take part in the interview process.

Name:

Signed:

Date:

Appendix F: The National Strategies' 'A sequence for teaching writing'

1. Establish clear aims

2. Provide examples

3. Explore the features of the text

4. Define the conventions

5. Demonstrate how it is written

6. Compose together

7. Scaffold first attempts

8. Independent writing

9. Draw out key learning

10. Review

English Department Training 2001 (Handout 4.4).

Glossary

Coalition Government

In the United Kingdom, the May 2010 general election resulted in a hung parliament. The Conservative Party, which had won most seats, formed a coalition with the Liberal Democratic Party (Lib Dems) in order to gain a parliamentary majority. This was the first time that the Conservatives and Lib Dems had made a power-sharing deal at Westminster. It was also the first full coalition in Britain since 1945.

Department for Education (DfE)

The Department for Education is the government department currently responsible for education and children's services. The Department for Education and Skills (DfES) was one of its predecessors from 2001 to 2007. On 28 June 2007, the department was split into The Department for Children, Schools and Families (DCSF) and the Department for Innovation, Universities and Skills. In 2010, when the Conservative/Lib Dem Coalition Government took control, Michael Gove became Secretary of State for Education. His department was then rebranded the Department for Education (DfE).

Website: http://www.education.gov.uk/

National Strategies

The National Strategies are professional programmes for school children and young people in England, delivered on behalf of the Department for Children, Schools and Families (see DfE). The National Strategies were first introduced in 1998 and since then have been a key national delivery vehicle for many new and existing government learning priorities. A new UK Government took office on 11 May 2010. Consequently, materials produced by the National Strategies may no longer reflect current Government policy.

Newly Qualified Teacher (NQT)

Newly Qualified Teacher is a label commonly attached to teachers in the United Kingdom who have been qualified for less than 12 months. The term began to be used in the mid-1990s following the removal of the requirement for teachers to serve a probationary period in 1991. Until that time, teachers who had recently qualified were more commonly known as probationary teachers, or probationers. Currently NQTs complete a formal induction period, usually during their first year of teaching.

Ofsted

The Office for Standards in Education, Children's Services and Skills (Ofsted) is the non-ministerial government department of Her Majesty's Chief Inspector of Schools in England (HMCI). The services Ofsted inspects or regulates include: local services, child minding, child day care, children's centres, children's social care, state schools, independent schools and teacher training providers, colleges and learning and skills providers in England. Her Majesty's Inspectors (HMI) are empowered and required to provide independent advice to the United Kingdom government and parliament on matters of policy and to publish an annual report to parliament on the quality of educational provision in England.

PGCE

The Postgraduate Certificate in Education (PGCE) is a one-year course in England, Wales and Northern Ireland for undergraduate degree holders that allows them to train to be a teacher. The professional qualification is normally taught at a university or other higher education institution, with much of the course time spent on placements in local schools. A trainee teacher will have to meet the Standards for Qualified Teacher Status and any course specific requirements to be awarded the PGCE. In England only, a trainee teacher also has to pass the QTS Skills Tests in literacy, numeracy and ICT (see QTS).

QTS

Qualified Teacher Status (QTS) is required in England and Wales to become, and continue being, a teacher of children in the state and special education sectors. An undergraduate degree and some form of teacher training are compulsory for new QTS recipients. The most common way to achieve QTS is for those who already have a degree to undertake a postgraduate teacher training course, such as the Postgraduate Certificate in Education (PGCE), Professional Certificate in Education or employment-based training, such as the Graduate Teacher Programme (GTP). There are also some undergraduate degree qualifications, such as the Bachelor of Education, that lead to the award of a first degree with QTS. In England only, candidates must also pass the QTS Skills Tests. All secondary candidates must have GCSEs at grade C or above (or demonstrate an equivalent standard) in English and mathematics before embarking on teacher training.

Website: http://www.tda.gov.uk/training-provider/itt/qts-standards-itt-requirements

Training and Development Agency (TDA)

The Training and Development Agency for Schools (TDA) is currently responsible for the initial and in-service training of teachers and other school staff in England. It is an executive agency of the Department for Education.

Website: http://www.tda.gov.uk/

White Paper

'White Paper' is an informal name for a parliamentary paper enunciating government policy. In the United Kingdom these are mostly issued as 'Command Papers'. White papers are issued by the government and lay out policy, or proposed action, on a topic of current concern. Although a white paper may on occasion be a consultation as to the details of new legislation, it signifies a clear intention on the part of a government to pass new law.

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